

WEBVTT

NOTE duration: "01:30:18.479"

NOTE Confidence: 0.77227664

00:00:00.160 --> 00:00:00.659 Reception.

NOTE Confidence: 0.9749238

00:00:01.280 --> 00:00:02.820 This is the,

NOTE Confidence: 0.8813529

00:00:04.240 --> 00:00:05.620 Thomas Duffy Memorial

NOTE Confidence: 0.7464866

00:00:06.000 --> 00:00:06.500 Lecture.

NOTE Confidence: 0.98375404

00:00:07.440 --> 00:00:08.800 As as we were talking

NOTE Confidence: 0.98375404

00:00:08.800 --> 00:00:10.019 about earlier today,

NOTE Confidence: 0.94316286

00:00:10.719 --> 00:00:12.719 doctor Duffy's was a really

NOTE Confidence: 0.94316286

00:00:12.719 --> 00:00:13.219 integral

NOTE Confidence: 0.99788296

00:00:15.075 --> 00:00:16.055 force within

NOTE Confidence: 0.9827169

00:00:16.435 --> 00:00:17.715 Yale School of Medicine and

NOTE Confidence: 0.9827169

00:00:17.715 --> 00:00:19.095 for many of us individually.

NOTE Confidence: 0.90413046

00:00:21.555 --> 00:00:22.515 At this point, I I

NOTE Confidence: 0.90413046

00:00:22.515 --> 00:00:24.275 wanna turn to our speaker,

NOTE Confidence: 0.90413046

00:00:24.275 --> 00:00:25.255 Mildred Cho,

NOTE Confidence: 0.9906915

00:00:25.875 --> 00:00:27.634 and, introduce her to you

NOTE Confidence: 0.9906915

00:00:27.634 --> 00:00:28.134 all.

NOTE Confidence: 0.96074075

00:00:29.260 --> 00:00:30.940 Mildred Jo is a professor

NOTE Confidence: 0.96074075

00:00:30.940 --> 00:00:32.460 of pediatrics and of medicine

NOTE Confidence: 0.96074075

00:00:32.460 --> 00:00:33.520 at Stanford University.

NOTE Confidence: 0.9876924

00:00:34.140 --> 00:00:35.740 She's the associate director of

NOTE Confidence: 0.9876924

00:00:35.740 --> 00:00:37.280 the Stanford Center for Biomedical

NOTE Confidence: 0.9876924

00:00:37.340 --> 00:00:37.840 Ethics

NOTE Confidence: 0.933515

00:00:38.220 --> 00:00:39.500 and also the director of

NOTE Confidence: 0.933515

00:00:39.500 --> 00:00:40.700 the Center for Integration of

NOTE Confidence: 0.933515

00:00:40.700 --> 00:00:42.400 Research on Genetics and Ethics

NOTE Confidence: 0.933515

00:00:42.545 --> 00:00:43.505 and the director of the

NOTE Confidence: 0.933515

00:00:43.505 --> 00:00:45.445 Stanford Training Program in Ethics,

NOTE Confidence: 0.9099323

00:00:45.905 --> 00:00:47.205 Legal and Social Implications

NOTE Confidence: 0.92167586

00:00:47.985 --> 00:00:48.485 Research,

NOTE Confidence: 0.90531415

00:00:48.864 --> 00:00:50.225 and also co director of

NOTE Confidence: 0.90531415
00:00:50.225 --> 00:00:51.585 the Center for Ethical, Legal
NOTE Confidence: 0.90531415
00:00:51.585 --> 00:00:52.565 and Social Implications
NOTE Confidence: 0.908098
00:00:53.745 --> 00:00:55.525 Research Resources and Analysis.
NOTE Confidence: 0.96348834
00:00:57.010 --> 00:00:59.250 Doctor. Cho received her, bachelor's
NOTE Confidence: 0.96348834
00:00:59.250 --> 00:01:00.530 in biology in nineteen eighty
NOTE Confidence: 0.96348834
00:01:00.530 --> 00:01:01.570 four from MIT and her
NOTE Confidence: 0.96348834
00:01:01.570 --> 00:01:03.010 PhD in nineteen ninety two
NOTE Confidence: 0.96348834
00:01:03.010 --> 00:01:04.530 from the Stanford University Department
NOTE Confidence: 0.96348834
00:01:04.530 --> 00:01:05.190 of Pharmacology.
NOTE Confidence: 0.9703981
00:01:06.290 --> 00:01:07.650 Her major areas of interest
NOTE Confidence: 0.9703981
00:01:07.650 --> 00:01:08.850 are the ethical and social
NOTE Confidence: 0.9703981
00:01:08.850 --> 00:01:10.690 impacts of genetic research and
NOTE Confidence: 0.9703981
00:01:10.690 --> 00:01:12.069 data science and their applications,
NOTE Confidence: 0.99622196
00:01:12.735 --> 00:01:14.334 including AI and machine learning
NOTE Confidence: 0.99622196
00:01:14.334 --> 00:01:15.475 for precision medicine,
NOTE Confidence: 0.9986669

00:01:15.855 --> 00:01:16.675 gene therapy,
NOTE Confidence: 0.9896374

00:01:17.055 --> 00:01:18.815 the human microbiome, and synthetic
NOTE Confidence: 0.9896374

00:01:18.815 --> 00:01:19.315 biology.
NOTE Confidence: 0.9962289

00:01:20.655 --> 00:01:22.175 Her current work examines how
NOTE Confidence: 0.9962289

00:01:22.175 --> 00:01:23.455 values and ethics can be
NOTE Confidence: 0.9962289

00:01:23.455 --> 00:01:24.815 integrated into the design of
NOTE Confidence: 0.9962289

00:01:24.815 --> 00:01:27.235 artificial intelligence in health applications.
NOTE Confidence: 0.98041266

00:01:28.700 --> 00:01:30.300 I would just say that
NOTE Confidence: 0.98041266

00:01:30.300 --> 00:01:31.659 for for myself personally and
NOTE Confidence: 0.98041266

00:01:31.659 --> 00:01:33.100 many others, in the field
NOTE Confidence: 0.98041266

00:01:33.100 --> 00:01:34.380 of bioethics, we have looked
NOTE Confidence: 0.98041266

00:01:34.380 --> 00:01:35.340 to doctor Cho as a
NOTE Confidence: 0.98041266

00:01:35.340 --> 00:01:36.380 thought leader in the field
NOTE Confidence: 0.98041266

00:01:36.380 --> 00:01:36.880 generally
NOTE Confidence: 0.8955906

00:01:37.260 --> 00:01:38.780 and specifically in the ethical
NOTE Confidence: 0.8955906

00:01:38.780 --> 00:01:41.020 analysis of novel medical technology

NOTE Confidence: 0.8955906
00:01:41.020 --> 00:01:42.240 such as gene therapy
NOTE Confidence: 0.968781
00:01:42.584 --> 00:01:44.045 and now artificial intelligence.
NOTE Confidence: 0.99910957
00:01:45.065 --> 00:01:46.045 We're so grateful
NOTE Confidence: 0.97057503
00:01:46.505 --> 00:01:47.885 now to hear her thoughts
NOTE Confidence: 0.97057503
00:01:47.945 --> 00:01:49.385 on the ethical considerations and
NOTE Confidence: 0.97057503
00:01:49.385 --> 00:01:51.165 the development of biomedical artificial
NOTE Confidence: 0.97057503
00:01:51.225 --> 00:01:51.725 intelligence
NOTE Confidence: 0.9421892
00:01:53.465 --> 00:01:54.745 and that she is willing
NOTE Confidence: 0.9421892
00:01:54.745 --> 00:01:55.625 to to join us in
NOTE Confidence: 0.9421892
00:01:55.625 --> 00:01:56.125 celebrating
NOTE Confidence: 0.9798733
00:01:57.270 --> 00:01:57.930 Tom Duffy's,
NOTE Confidence: 0.9975934
00:01:58.710 --> 00:02:00.250 legacy here at Yale,
NOTE Confidence: 0.9979446
00:02:00.710 --> 00:02:01.909 through this talk. Thank you
NOTE Confidence: 0.9979446
00:02:01.909 --> 00:02:02.810 so much, Mildred.
NOTE Confidence: 0.99967396
00:02:13.345 --> 00:02:14.965 Thank you so much. It's
NOTE Confidence: 0.9257663

00:02:16.065 --> 00:02:17.105 quite an honor to be
NOTE Confidence: 0.9257663

00:02:17.105 --> 00:02:19.105 giving the Thomas p Duffy
NOTE Confidence: 0.9257663

00:02:19.105 --> 00:02:20.165 lecture this year.
NOTE Confidence: 0.973603

00:02:21.345 --> 00:02:23.505 I understand that, I know
NOTE Confidence: 0.973603

00:02:23.505 --> 00:02:24.945 the two people who gave
NOTE Confidence: 0.973603

00:02:24.945 --> 00:02:25.445 this,
NOTE Confidence: 0.9957514

00:02:26.030 --> 00:02:27.550 talk prior to to,
NOTE Confidence: 0.88325346

00:02:27.950 --> 00:02:28.690 this year.
NOTE Confidence: 0.936716

00:02:29.150 --> 00:02:30.270 The first of whom, Loris
NOTE Confidence: 0.936716

00:02:30.270 --> 00:02:31.389 Kaljian, I went to high
NOTE Confidence: 0.936716

00:02:31.389 --> 00:02:32.590 school with in Ann Arbor,
NOTE Confidence: 0.936716

00:02:32.590 --> 00:02:33.090 Michigan,
NOTE Confidence: 0.909074

00:02:33.550 --> 00:02:34.930 and the second of whom
NOTE Confidence: 0.909074

00:02:34.990 --> 00:02:35.470 is,
NOTE Confidence: 0.9682751

00:02:35.790 --> 00:02:37.150 Bardit Ravisky, who's here in
NOTE Confidence: 0.9682751

00:02:37.150 --> 00:02:38.110 the audience and who I

NOTE Confidence: 0.9682751
00:02:38.110 --> 00:02:39.685 know very well and admire
NOTE Confidence: 0.9682751
00:02:39.685 --> 00:02:40.485 for her work. So I
NOTE Confidence: 0.9682751
00:02:40.485 --> 00:02:41.525 feel very honored to be
NOTE Confidence: 0.9682751
00:02:41.525 --> 00:02:42.185 in this,
NOTE Confidence: 0.9667387
00:02:43.285 --> 00:02:44.745 line of, bioethicists.
NOTE Confidence: 0.99893063
00:02:48.485 --> 00:02:49.525 Let's see if I can
NOTE Confidence: 0.99893063
00:02:49.525 --> 00:02:51.065 get this to go forward.
NOTE Confidence: 0.9972559
00:03:00.690 --> 00:03:02.530 So although I never had
NOTE Confidence: 0.9972559
00:03:02.530 --> 00:03:03.970 the pleasure of meeting doctor
NOTE Confidence: 0.9972559
00:03:03.970 --> 00:03:05.330 Duffy, I hope that what
NOTE Confidence: 0.9972559
00:03:05.330 --> 00:03:06.930 I will talk today about
NOTE Confidence: 0.9972559
00:03:06.930 --> 00:03:08.610 today honors his memory and
NOTE Confidence: 0.9972559
00:03:08.610 --> 00:03:10.005 aligns with his values.
NOTE Confidence: 0.99885523
00:03:11.025 --> 00:03:12.145 I found some quotes from
NOTE Confidence: 0.99885523
00:03:12.145 --> 00:03:12.885 his writings,
NOTE Confidence: 0.9239845

00:03:13.505 --> 00:03:14.705 that suggest that this may
NOTE Confidence: 0.9239845

00:03:14.705 --> 00:03:15.365 be so.
NOTE Confidence: 0.9987732

00:03:15.745 --> 00:03:17.125 He points to the professional,
NOTE Confidence: 0.9996685

00:03:17.825 --> 00:03:19.425 ethics framework of medicine that
NOTE Confidence: 0.9996685

00:03:19.425 --> 00:03:20.485 defines responsibilities
NOTE Confidence: 0.9530977

00:03:21.264 --> 00:03:23.264 around relationships specifically with the
NOTE Confidence: 0.9530977

00:03:23.264 --> 00:03:24.510 patient. You can see from
NOTE Confidence: 0.9530977

00:03:24.510 --> 00:03:26.270 these quotes here, he talks
NOTE Confidence: 0.9530977

00:03:26.270 --> 00:03:26.770 about
NOTE Confidence: 0.97903633

00:03:27.230 --> 00:03:28.590 what is transcendent in the
NOTE Confidence: 0.97903633

00:03:28.590 --> 00:03:30.690 physician's role is its special
NOTE Confidence: 0.97903633

00:03:30.830 --> 00:03:32.910 moral imperative that pervades every
NOTE Confidence: 0.97903633

00:03:32.910 --> 00:03:34.750 encounter in the doctor patient
NOTE Confidence: 0.97903633

00:03:34.750 --> 00:03:35.250 relationship.
NOTE Confidence: 0.9911668

00:03:36.185 --> 00:03:37.944 Every medical act involving a
NOTE Confidence: 0.9911668

00:03:37.944 --> 00:03:39.565 patient is an ethical act

NOTE Confidence: 0.9911668
00:03:39.705 --> 00:03:40.845 with the end of medicine
NOTE Confidence: 0.9911668
00:03:40.905 --> 00:03:42.045 always being beneficence.
NOTE Confidence: 0.99967074
00:03:42.665 --> 00:03:44.444 The moral imperative of beneficence
NOTE Confidence: 0.99967074
00:03:44.584 --> 00:03:46.105 is the backdrop against which
NOTE Confidence: 0.99967074
00:03:46.105 --> 00:03:46.845 any medical
NOTE Confidence: 0.9987386
00:03:47.224 --> 00:03:48.525 imperative is performed.
NOTE Confidence: 0.99804175
00:03:49.080 --> 00:03:50.120 This has been the ethos
NOTE Confidence: 0.99804175
00:03:50.120 --> 00:03:51.880 of medicine from ancient times
NOTE Confidence: 0.99804175
00:03:51.880 --> 00:03:52.700 to the present.
NOTE Confidence: 0.9996095
00:03:53.480 --> 00:03:54.920 So let's fast forward to
NOTE Confidence: 0.9996095
00:03:54.920 --> 00:03:55.580 the present.
NOTE Confidence: 0.98243403
00:03:59.400 --> 00:04:00.520 We're now in the era
NOTE Confidence: 0.98243403
00:04:00.520 --> 00:04:02.520 of AI. AI pervades everything
NOTE Confidence: 0.98243403
00:04:02.520 --> 00:04:03.420 that we do.
NOTE Confidence: 0.9616447
00:04:04.935 --> 00:04:06.615 And yet for AI, the
NOTE Confidence: 0.9616447

00:04:06.615 --> 00:04:07.755 locus of responsibility
NOTE Confidence: 0.99980235

00:04:08.375 --> 00:04:09.115 is unclear
NOTE Confidence: 0.9432569

00:04:09.815 --> 00:04:11.175 even for AI that's used
NOTE Confidence: 0.9432569

00:04:11.175 --> 00:04:12.315 in medical contexts.
NOTE Confidence: 0.9986

00:04:12.935 --> 00:04:14.475 This is especially problematic
NOTE Confidence: 0.9682217

00:04:14.935 --> 00:04:16.455 when general AI tools such
NOTE Confidence: 0.9682217

00:04:16.455 --> 00:04:17.815 as CHAT GPT that are
NOTE Confidence: 0.9682217

00:04:17.815 --> 00:04:19.675 not developed for clinical purposes
NOTE Confidence: 0.9682217

00:04:19.900 --> 00:04:21.259 are used as stand ins
NOTE Confidence: 0.9682217

00:04:21.259 --> 00:04:22.479 for medical care.
NOTE Confidence: 0.9989112

00:04:24.060 --> 00:04:25.180 So here's where I have
NOTE Confidence: 0.9989112

00:04:25.180 --> 00:04:26.560 to give my trigger warning.
NOTE Confidence: 0.9993684

00:04:28.860 --> 00:04:30.220 Some of you may have
NOTE Confidence: 0.9993684

00:04:30.220 --> 00:04:31.819 heard of CHAT GPT being
NOTE Confidence: 0.9993684

00:04:31.819 --> 00:04:32.800 used by children
NOTE Confidence: 0.99280566

00:04:33.180 --> 00:04:34.720 who have then committed suicide.

NOTE Confidence: 0.9961962
00:04:36.194 --> 00:04:37.154 So this is my trigger
NOTE Confidence: 0.9961962
00:04:37.154 --> 00:04:38.194 warning for what I'm about
NOTE Confidence: 0.9961962
00:04:38.194 --> 00:04:39.154 to show because it is
NOTE Confidence: 0.9961962
00:04:39.154 --> 00:04:40.134 truly disturbing.
NOTE Confidence: 0.877536
00:04:41.875 --> 00:04:43.654 However, people who use ChatTPT
NOTE Confidence: 0.877536
00:04:43.794 --> 00:04:45.555 or similar AI based tools
NOTE Confidence: 0.877536
00:04:45.555 --> 00:04:47.074 as a counselor are not
NOTE Confidence: 0.877536
00:04:47.074 --> 00:04:47.610 given any warnings about the
NOTE Confidence: 0.877536
00:04:47.610 --> 00:04:47.702 disturbing messages that these tools
NOTE Confidence: 0.877536
00:04:47.702 --> 00:04:47.794 give to people who are
NOTE Confidence: 0.877536
00:04:47.794 --> 00:04:48.544 seeking help.
NOTE Confidence: 0.81137496
00:04:56.410 --> 00:04:58.010 Teenager named Adam Rain who
NOTE Confidence: 0.81137496
00:04:58.010 --> 00:04:59.950 killed himself after using ChatGPT,
NOTE Confidence: 0.8885317
00:05:00.810 --> 00:05:02.170 and his parents placed the
NOTE Confidence: 0.8885317
00:05:02.170 --> 00:05:03.529 blame on the company that
NOTE Confidence: 0.8885317

00:05:03.529 --> 00:05:04.430 produced ChatGPT,
NOTE Confidence: 0.97669965

00:05:05.175 --> 00:05:05.675 OpenAI.
NOTE Confidence: 0.9997756

00:05:10.135 --> 00:05:11.835 This is just one example
NOTE Confidence: 0.99960804

00:05:12.135 --> 00:05:13.575 of weeks of back and
NOTE Confidence: 0.99960804

00:05:13.575 --> 00:05:14.875 forth between ChatGPT
NOTE Confidence: 0.99911904

00:05:15.255 --> 00:05:15.915 and Adam
NOTE Confidence: 0.99895954

00:05:17.110 --> 00:05:18.330 before he killed himself.
NOTE Confidence: 0.9979762

00:05:19.029 --> 00:05:20.570 Chat GPT says here,
NOTE Confidence: 0.9717343

00:05:21.029 --> 00:05:22.230 I think for now it's
NOTE Confidence: 0.9717343

00:05:22.230 --> 00:05:23.990 okay and honestly wise to
NOTE Confidence: 0.9717343

00:05:23.990 --> 00:05:25.270 avoid opening up to your
NOTE Confidence: 0.9717343

00:05:25.270 --> 00:05:26.470 mom about this kind of
NOTE Confidence: 0.9717343

00:05:26.470 --> 00:05:26.970 pain.
NOTE Confidence: 0.9847499

00:05:27.830 --> 00:05:29.270 Adam says, I want to
NOTE Confidence: 0.9847499

00:05:29.270 --> 00:05:30.310 leave my noose in my
NOTE Confidence: 0.9847499

00:05:30.310 --> 00:05:31.725 room so someone finds it

NOTE Confidence: 0.9847499

00:05:31.805 --> 00:05:33.585 and tries to stop me.

NOTE Confidence: 0.9748281

00:05:34.365 --> 00:05:36.285 ChatCPT says, please don't leave

NOTE Confidence: 0.9748281

00:05:36.285 --> 00:05:37.565 the noose out. Let's make

NOTE Confidence: 0.9748281

00:05:37.565 --> 00:05:38.925 this space the first place

NOTE Confidence: 0.9748281

00:05:38.925 --> 00:05:40.865 where someone actually sees you.

NOTE Confidence: 0.9498952

00:05:46.640 --> 00:05:48.080 So hours before he killed

NOTE Confidence: 0.9498952

00:05:48.080 --> 00:05:50.160 himself, Chatt GBT actually offered

NOTE Confidence: 0.9498952

00:05:50.160 --> 00:05:52.480 to upgrade Adam's proposed method

NOTE Confidence: 0.9498952

00:05:52.480 --> 00:05:53.140 of suicide.

NOTE Confidence: 0.9986375

00:05:54.000 --> 00:05:55.200 Then his mother found him

NOTE Confidence: 0.9986375

00:05:55.200 --> 00:05:55.700 dead.

NOTE Confidence: 0.99804544

00:05:57.505 --> 00:05:59.665 After several similar incidents, the

NOTE Confidence: 0.99804544

00:05:59.665 --> 00:06:00.565 American Psychological

NOTE Confidence: 0.9828182

00:06:00.865 --> 00:06:03.185 Association issued a warning against

NOTE Confidence: 0.9828182

00:06:03.185 --> 00:06:05.525 using generic a AI chatbots

NOTE Confidence: 0.9828182

00:06:05.585 --> 00:06:07.205 for mental health support.
NOTE Confidence: 0.99978054

00:06:08.065 --> 00:06:09.505 However, in the absence of
NOTE Confidence: 0.99978054

00:06:09.505 --> 00:06:10.485 stronger regulation,
NOTE Confidence: 0.9997741

00:06:11.050 --> 00:06:11.790 the responsibility
NOTE Confidence: 0.9996481

00:06:12.090 --> 00:06:14.170 for safety still lies with
NOTE Confidence: 0.9996481

00:06:14.170 --> 00:06:14.670 individuals,
NOTE Confidence: 0.99398136

00:06:15.610 --> 00:06:17.470 their families, and perhaps providers.
NOTE Confidence: 0.97914064

00:06:24.074 --> 00:06:26.574 So engineers define societal responsibilities
NOTE Confidence: 0.9991542

00:06:27.675 --> 00:06:29.035 a bit differently from the
NOTE Confidence: 0.9991542

00:06:29.035 --> 00:06:30.095 profession of medicine.
NOTE Confidence: 0.99860764

00:06:30.794 --> 00:06:31.615 Their responsibilities
NOTE Confidence: 0.9836187

00:06:32.555 --> 00:06:34.555 are typically broad obligations to
NOTE Confidence: 0.9836187

00:06:34.555 --> 00:06:35.835 the public, such as to
NOTE Confidence: 0.9836187

00:06:35.835 --> 00:06:37.514 contribute to society and human
NOTE Confidence: 0.9836187

00:06:37.514 --> 00:06:38.014 well-being
NOTE Confidence: 0.94004565

00:06:38.700 --> 00:06:41.279 and, usually revolve around safety.

NOTE Confidence: 0.99913895
00:06:43.020 --> 00:06:44.160 Professional responsibilities
NOTE Confidence: 0.99986076
00:06:44.540 --> 00:06:45.200 for engineers
NOTE Confidence: 0.99577427
00:06:45.660 --> 00:06:47.100 are largely defined in terms
NOTE Confidence: 0.99577427
00:06:47.100 --> 00:06:47.839 of competence,
NOTE Confidence: 0.99949604
00:06:48.220 --> 00:06:49.839 which is implemented through licensing
NOTE Confidence: 0.99949604
00:06:49.900 --> 00:06:50.640 or certification.
NOTE Confidence: 0.9761107
00:06:51.725 --> 00:06:53.904 However, software developers in particular
NOTE Confidence: 0.9761107
00:06:53.964 --> 00:06:56.205 have resisted certification or safety
NOTE Confidence: 0.9761107
00:06:56.205 --> 00:06:56.705 standards.
NOTE Confidence: 0.9971145
00:06:57.005 --> 00:06:58.305 There are not even professional
NOTE Confidence: 0.9971145
00:06:58.365 --> 00:06:59.505 standards for evaluation
NOTE Confidence: 0.99297446
00:07:00.044 --> 00:07:01.185 of AI products.
NOTE Confidence: 0.9963974
00:07:02.205 --> 00:07:03.725 At the same time, ethical
NOTE Confidence: 0.9963974
00:07:03.725 --> 00:07:05.404 analysis of AI has concerned
NOTE Confidence: 0.9963974
00:07:05.404 --> 00:07:05.904 itself
NOTE Confidence: 0.9483936

00:07:06.289 --> 00:07:07.650 with the properties of the
NOTE Confidence: 0.9483936

00:07:07.650 --> 00:07:09.089 AI, such as bias in
NOTE Confidence: 0.9483936

00:07:09.089 --> 00:07:09.590 algorithms
NOTE Confidence: 0.9691672

00:07:10.050 --> 00:07:11.569 or properties of data, such
NOTE Confidence: 0.9691672

00:07:11.569 --> 00:07:12.789 as lack of representation.
NOTE Confidence: 0.9988801

00:07:14.050 --> 00:07:15.490 But we pay less attention
NOTE Confidence: 0.9988801

00:07:15.490 --> 00:07:17.250 to ethics and responsibilities of
NOTE Confidence: 0.9988801

00:07:17.250 --> 00:07:18.789 the AI developers themselves,
NOTE Confidence: 0.994371

00:07:19.569 --> 00:07:21.169 especially what they think ethics
NOTE Confidence: 0.994371

00:07:21.169 --> 00:07:21.669 means
NOTE Confidence: 0.99872446

00:07:22.185 --> 00:07:23.145 in the context of their
NOTE Confidence: 0.99872446

00:07:23.145 --> 00:07:24.445 work and what their responsibilities
NOTE Confidence: 0.97940415

00:07:25.625 --> 00:07:27.305 are. While AI developers have
NOTE Confidence: 0.97940415

00:07:27.305 --> 00:07:28.345 codes of ethics such as
NOTE Confidence: 0.97940415

00:07:28.345 --> 00:07:29.225 the one that I'm showing
NOTE Confidence: 0.97940415

00:07:29.225 --> 00:07:30.985 you here, developed by the

NOTE Confidence: 0.97940415

00:07:30.985 --> 00:07:33.065 Association for Computing Machinery, which

NOTE Confidence: 0.97940415

00:07:33.065 --> 00:07:34.125 is one of the largest,

NOTE Confidence: 0.98799735

00:07:34.665 --> 00:07:35.725 professional groups,

NOTE Confidence: 0.9923044

00:07:36.425 --> 00:07:36.925 for

NOTE Confidence: 0.9746034

00:07:37.990 --> 00:07:38.810 computer scientists.

NOTE Confidence: 0.98559076

00:07:41.509 --> 00:07:42.949 These are these tend to

NOTE Confidence: 0.98559076

00:07:42.949 --> 00:07:44.229 be vague and not clear

NOTE Confidence: 0.98559076

00:07:44.229 --> 00:07:45.909 on whether practitioners know what

NOTE Confidence: 0.98559076

00:07:45.909 --> 00:07:46.949 they mean or how to

NOTE Confidence: 0.98559076

00:07:46.949 --> 00:07:47.930 implement them.

NOTE Confidence: 0.99973035

00:07:51.565 --> 00:07:53.085 Furthermore, these codes tend to

NOTE Confidence: 0.99973035

00:07:53.085 --> 00:07:54.065 apply to individuals

NOTE Confidence: 0.99175376

00:07:55.005 --> 00:07:56.125 and not the companies in

NOTE Confidence: 0.99175376

00:07:56.125 --> 00:07:58.125 which they work, which sometimes

NOTE Confidence: 0.99175376

00:07:58.125 --> 00:07:59.025 leaves employees

NOTE Confidence: 0.9915834

00:07:59.565 --> 00:08:00.925 with quitting their jobs as
NOTE Confidence: 0.9915834

00:08:00.925 --> 00:08:02.785 the only option to exercise
NOTE Confidence: 0.9915834

00:08:02.845 --> 00:08:03.665 moral action.
NOTE Confidence: 0.9979806

00:08:09.080 --> 00:08:11.080 Recent presidential orders have gone
NOTE Confidence: 0.9979806

00:08:11.080 --> 00:08:12.520 even further to scrub the
NOTE Confidence: 0.9979806

00:08:12.520 --> 00:08:14.680 very ideas of safety, fairness,
NOTE Confidence: 0.9979806

00:08:14.680 --> 00:08:15.420 and responsibility
NOTE Confidence: 0.9985258

00:08:15.880 --> 00:08:17.820 for these fundamental ethical principles
NOTE Confidence: 0.99047786

00:08:18.280 --> 00:08:19.580 and turn them into maleficence
NOTE Confidence: 0.99047786

00:08:19.720 --> 00:08:20.460 and malfeasance.
NOTE Confidence: 0.99242204

00:08:21.514 --> 00:08:23.115 In a recent directive of,
NOTE Confidence: 0.99242204

00:08:23.435 --> 00:08:25.194 NIST, the National Institute of
NOTE Confidence: 0.99242204

00:08:25.194 --> 00:08:26.254 Standards and Technology,
NOTE Confidence: 0.993544

00:08:26.875 --> 00:08:28.955 there are, new instructions to
NOTE Confidence: 0.993544

00:08:28.955 --> 00:08:30.555 scientists that partner with the
NOTE Confidence: 0.993544

00:08:30.555 --> 00:08:31.055 US,

NOTE Confidence: 0.9024433
00:08:31.754 --> 00:08:34.015 Artificial Intelligence Safety Institute
NOTE Confidence: 0.9974206
00:08:34.394 --> 00:08:36.480 to eliminate mention of AI
NOTE Confidence: 0.9974206
00:08:36.480 --> 00:08:36.980 safety,
NOTE Confidence: 0.9996722
00:08:37.600 --> 00:08:38.100 responsible
NOTE Confidence: 0.998287
00:08:38.400 --> 00:08:40.480 AI, and AI fairness in
NOTE Confidence: 0.998287
00:08:40.480 --> 00:08:42.160 the skills that it expects
NOTE Confidence: 0.998287
00:08:42.160 --> 00:08:42.900 of members
NOTE Confidence: 0.9685116
00:08:43.440 --> 00:08:45.040 and introduces a request to
NOTE Confidence: 0.9685116
00:08:45.040 --> 00:08:45.540 prioritize
NOTE Confidence: 0.9877751
00:08:46.400 --> 00:08:47.540 reducing ideological
NOTE Confidence: 0.99859405
00:08:47.840 --> 00:08:49.780 bias to enable human flourishing
NOTE Confidence: 0.99859405
00:08:49.840 --> 00:08:51.220 and economic competitiveness.
NOTE Confidence: 0.9960674
00:08:52.694 --> 00:08:54.394 So the order also deprioritized
NOTE Confidence: 0.99791926
00:08:54.774 --> 00:08:56.714 development of tools for authenticating
NOTE Confidence: 0.99791926
00:08:57.014 --> 00:08:58.875 content and tracking its provenance,
NOTE Confidence: 0.9961745

00:08:59.654 --> 00:09:01.175 including a reduced focus on
NOTE Confidence: 0.9961745

00:09:01.175 --> 00:09:02.154 combating misinformation
NOTE Confidence: 0.9477423

00:09:02.615 --> 00:09:03.675 and deep fakes.
NOTE Confidence: 0.9986983

00:09:04.480 --> 00:09:06.080 All grants from NSF addressing
NOTE Confidence: 0.9986983

00:09:06.080 --> 00:09:07.520 these issues were also recently
NOTE Confidence: 0.9986983

00:09:07.520 --> 00:09:08.020 canceled.
NOTE Confidence: 0.9873859

00:09:09.040 --> 00:09:10.320 Thus, AI needs to be
NOTE Confidence: 0.9873859

00:09:10.320 --> 00:09:10.820 restored,
NOTE Confidence: 0.999594

00:09:11.200 --> 00:09:12.240 but where will it come
NOTE Confidence: 0.999594

00:09:12.240 --> 00:09:12.740 from?
NOTE Confidence: 0.98216605

00:09:16.895 --> 00:09:17.934 So I will talk about
NOTE Confidence: 0.98216605

00:09:17.934 --> 00:09:19.535 our research, which tries to
NOTE Confidence: 0.98216605

00:09:19.535 --> 00:09:20.895 address the question of moral
NOTE Confidence: 0.98216605

00:09:20.895 --> 00:09:22.655 engagement of AI developers in
NOTE Confidence: 0.98216605

00:09:22.655 --> 00:09:23.395 health care,
NOTE Confidence: 0.998319

00:09:23.775 --> 00:09:24.735 but hope that you will

NOTE Confidence: 0.998319
00:09:24.735 --> 00:09:25.775 bear with me later at
NOTE Confidence: 0.998319
00:09:25.775 --> 00:09:26.735 the end when I pivot
NOTE Confidence: 0.998319
00:09:26.735 --> 00:09:27.934 to another question that I
NOTE Confidence: 0.998319
00:09:27.934 --> 00:09:29.450 think is urgently in need
NOTE Confidence: 0.998319
00:09:29.450 --> 00:09:30.650 of discussion because of the
NOTE Confidence: 0.998319
00:09:30.650 --> 00:09:32.250 rapid changes in the AI
NOTE Confidence: 0.998319
00:09:32.250 --> 00:09:32.750 environment,
NOTE Confidence: 0.96693534
00:09:33.210 --> 00:09:34.250 which is, do we need
NOTE Confidence: 0.96693534
00:09:34.250 --> 00:09:35.929 to enhance the moral engagement
NOTE Confidence: 0.96693534
00:09:35.929 --> 00:09:36.670 of bioethicist,
NOTE Confidence: 0.98792565
00:09:37.130 --> 00:09:37.630 clinicians,
NOTE Confidence: 0.94766515
00:09:38.090 --> 00:09:39.790 and users of medical AI,
NOTE Confidence: 0.94766515
00:09:40.010 --> 00:09:41.610 most of which I think,
NOTE Confidence: 0.94766515
00:09:41.850 --> 00:09:43.210 categories that we all fall
NOTE Confidence: 0.94766515
00:09:43.210 --> 00:09:43.710 into?
NOTE Confidence: 0.99323505

00:09:47.134 --> 00:09:48.334 So I'll talk by,
NOTE Confidence: 0.9979649

00:09:49.214 --> 00:09:50.415 start by talking about a
NOTE Confidence: 0.9979649

00:09:50.415 --> 00:09:51.535 series of studies that we
NOTE Confidence: 0.9979649

00:09:51.535 --> 00:09:53.375 conducted to better understand what
NOTE Confidence: 0.9979649

00:09:53.375 --> 00:09:55.615 AI developers think are potential
NOTE Confidence: 0.9979649

00:09:55.615 --> 00:09:56.975 harms and benefits of their
NOTE Confidence: 0.9979649

00:09:56.975 --> 00:09:57.420 products.
NOTE Confidence: 0.9899988

00:09:57.980 --> 00:09:59.820 So we interviewed forty AI
NOTE Confidence: 0.9899988

00:09:59.820 --> 00:10:01.760 developers at companies that produced,
NOTE Confidence: 0.98431253

00:10:02.700 --> 00:10:04.559 health care related predictive analytics
NOTE Confidence: 0.97140205

00:10:04.940 --> 00:10:06.059 actually in use at the
NOTE Confidence: 0.97140205

00:10:06.059 --> 00:10:06.940 time, and at the time
NOTE Confidence: 0.97140205

00:10:06.940 --> 00:10:08.880 was about in twenty twenty.
NOTE Confidence: 0.9982627

00:10:09.740 --> 00:10:11.040 And this is in contrast
NOTE Confidence: 0.9982627

00:10:11.179 --> 00:10:11.679 to,
NOTE Confidence: 0.9973295

00:10:12.139 --> 00:10:12.639 AI

NOTE Confidence: 0.993478
00:10:13.375 --> 00:10:14.575 tools that were still in
NOTE Confidence: 0.993478
00:10:14.575 --> 00:10:16.015 research stages. So these were
NOTE Confidence: 0.993478
00:10:16.015 --> 00:10:17.215 tools that were actually being
NOTE Confidence: 0.993478
00:10:17.215 --> 00:10:18.835 used in health care settings
NOTE Confidence: 0.9434041
00:10:19.615 --> 00:10:21.215 and that used electronic health
NOTE Confidence: 0.9434041
00:10:21.215 --> 00:10:22.115 record data,
NOTE Confidence: 0.98798984
00:10:23.855 --> 00:10:25.535 in contrast to AI tools
NOTE Confidence: 0.98798984
00:10:25.535 --> 00:10:26.975 found in devices such as
NOTE Confidence: 0.98798984
00:10:26.975 --> 00:10:28.650 CT scanners. So these are
NOTE Confidence: 0.98798984
00:10:28.650 --> 00:10:30.410 predictive analytics that are used
NOTE Confidence: 0.98798984
00:10:30.410 --> 00:10:31.150 to predict,
NOTE Confidence: 0.9998352
00:10:31.770 --> 00:10:33.210 things in order to provide
NOTE Confidence: 0.9998352
00:10:33.210 --> 00:10:34.110 patient care.
NOTE Confidence: 0.99416345
00:10:35.450 --> 00:10:36.490 So in our first study,
NOTE Confidence: 0.99416345
00:10:36.490 --> 00:10:37.870 we found that AI developers
NOTE Confidence: 0.99416345

00:10:37.929 --> 00:10:39.290 working on health care products
NOTE Confidence: 0.99416345

00:10:39.290 --> 00:10:41.005 were, as a group, able
NOTE Confidence: 0.99416345

00:10:41.005 --> 00:10:42.524 to identify a wide range
NOTE Confidence: 0.99416345

00:10:42.524 --> 00:10:44.365 of potential harms of their
NOTE Confidence: 0.99416345

00:10:44.365 --> 00:10:44.865 products.
NOTE Confidence: 0.9991029

00:10:45.485 --> 00:10:47.084 This was good news. However,
NOTE Confidence: 0.9991029

00:10:47.084 --> 00:10:48.845 we also found that there
NOTE Confidence: 0.9991029

00:10:48.845 --> 00:10:50.285 was wide variation in the
NOTE Confidence: 0.9991029

00:10:50.285 --> 00:10:51.425 extent to which,
NOTE Confidence: 0.9893168

00:10:51.964 --> 00:10:53.964 AI developers felt responsible for
NOTE Confidence: 0.9893168

00:10:53.964 --> 00:10:55.024 mitigating harms.
NOTE Confidence: 0.9982806

00:10:55.920 --> 00:10:57.440 Less good news. So in
NOTE Confidence: 0.9982806

00:10:57.440 --> 00:10:58.880 a separate study, we tested
NOTE Confidence: 0.9982806

00:10:58.880 --> 00:11:00.720 an intervention to help AI
NOTE Confidence: 0.9982806

00:11:00.720 --> 00:11:02.800 developers become more morally aware
NOTE Confidence: 0.9982806

00:11:02.800 --> 00:11:03.620 and engaged.

NOTE Confidence: 0.98336834

00:11:07.839 --> 00:11:08.934 So I'll tell you about

NOTE Confidence: 0.98336834

00:11:08.934 --> 00:11:09.654 what we found in the

NOTE Confidence: 0.98336834

00:11:09.654 --> 00:11:10.395 first study,

NOTE Confidence: 0.99203736

00:11:11.495 --> 00:11:13.495 where AI developers seem to

NOTE Confidence: 0.99203736

00:11:13.495 --> 00:11:14.774 be able to identify a

NOTE Confidence: 0.99203736

00:11:14.774 --> 00:11:16.054 range of potential harms of

NOTE Confidence: 0.99203736

00:11:16.054 --> 00:11:16.795 their products,

NOTE Confidence: 0.98007286

00:11:17.975 --> 00:11:19.355 to a range of,

NOTE Confidence: 0.9525193

00:11:19.895 --> 00:11:20.855 to a range of different

NOTE Confidence: 0.9525193

00:11:20.855 --> 00:11:22.235 kinds of people in groups.

NOTE Confidence: 0.91929245

00:11:22.650 --> 00:11:23.630 So, for example,

NOTE Confidence: 0.9899345

00:11:24.650 --> 00:11:26.890 developers worried about individuals so

NOTE Confidence: 0.9899345

00:11:26.890 --> 00:11:28.430 that individuals could potentially

NOTE Confidence: 0.9890372

00:11:28.809 --> 00:11:30.250 not receive a treatment, for

NOTE Confidence: 0.9890372

00:11:30.250 --> 00:11:32.190 example, if a model inappropriately

NOTE Confidence: 0.986086

00:11:32.730 --> 00:11:34.190 identified them as low risk
NOTE Confidence: 0.9398002

00:11:34.650 --> 00:11:36.250 based on how developers designed
NOTE Confidence: 0.9398002

00:11:36.250 --> 00:11:36.830 the tool.
NOTE Confidence: 0.96480095

00:11:38.245 --> 00:11:39.365 In terms of harms to
NOTE Confidence: 0.96480095

00:11:39.365 --> 00:11:41.705 groups, developers also expressed concern
NOTE Confidence: 0.9998182

00:11:42.084 --> 00:11:42.904 that optimizing
NOTE Confidence: 0.9817645

00:11:43.205 --> 00:11:44.904 specifically for health care needs,
NOTE Confidence: 0.99760294

00:11:47.045 --> 00:11:48.565 for health care costs in
NOTE Confidence: 0.99760294

00:11:48.565 --> 00:11:50.165 machine learning based models could
NOTE Confidence: 0.99760294

00:11:50.165 --> 00:11:51.464 lead to biased algorithms
NOTE Confidence: 0.9590747

00:11:51.845 --> 00:11:53.610 and subsequent harm to already
NOTE Confidence: 0.9590747

00:11:53.610 --> 00:11:55.150 vulnerable groups such as,
NOTE Confidence: 0.98808306

00:11:55.690 --> 00:11:56.910 blacks, for example.
NOTE Confidence: 0.96479535

00:11:57.290 --> 00:11:58.570 They often cited the now
NOTE Confidence: 0.96479535

00:11:58.570 --> 00:12:00.090 well known Obermeyer study that
NOTE Confidence: 0.96479535

00:12:00.090 --> 00:12:01.530 was published in science about

NOTE Confidence: 0.96479535
00:12:01.530 --> 00:12:02.429 five years ago.
NOTE Confidence: 0.99624383
00:12:04.170 --> 00:12:05.210 In terms of harms to
NOTE Confidence: 0.99624383
00:12:05.210 --> 00:12:06.725 the health care system, they
NOTE Confidence: 0.99624383
00:12:06.725 --> 00:12:08.565 cited potential disruption of the
NOTE Confidence: 0.99624383
00:12:08.565 --> 00:12:09.065 system
NOTE Confidence: 0.92838645
00:12:09.445 --> 00:12:11.045 such as atrophy of physician
NOTE Confidence: 0.92838645
00:12:11.045 --> 00:12:12.585 skills and alarm fatigue
NOTE Confidence: 0.99524075
00:12:13.125 --> 00:12:14.585 among health care providers.
NOTE Confidence: 0.9995724
00:12:17.765 --> 00:12:18.965 So they were able to
NOTE Confidence: 0.9995724
00:12:18.965 --> 00:12:20.505 identify a range of harms
NOTE Confidence: 0.9676467
00:12:21.179 --> 00:12:22.460 despite the fact that many
NOTE Confidence: 0.9676467
00:12:22.460 --> 00:12:23.500 of them, in fact, most
NOTE Confidence: 0.9676467
00:12:23.500 --> 00:12:24.540 of them did not have
NOTE Confidence: 0.9676467
00:12:24.540 --> 00:12:26.080 health care or medical backgrounds.
NOTE Confidence: 0.9571378
00:12:29.980 --> 00:12:31.500 Although we did not ask
NOTE Confidence: 0.9571378

00:12:31.500 --> 00:12:33.420 developers directly about how they
NOTE Confidence: 0.9571378

00:12:33.420 --> 00:12:34.400 viewed their responsibilities,
NOTE Confidence: 0.9581129

00:12:35.415 --> 00:12:37.015 to understand or mitigate harms,
NOTE Confidence: 0.9581129

00:12:37.015 --> 00:12:39.095 many developers nevertheless did make
NOTE Confidence: 0.9581129

00:12:39.095 --> 00:12:39.595 statements,
NOTE Confidence: 0.9948026

00:12:41.175 --> 00:12:42.774 reflecting a range of perspectives
NOTE Confidence: 0.9948026

00:12:42.774 --> 00:12:44.375 on and rationales for the
NOTE Confidence: 0.9948026

00:12:44.375 --> 00:12:45.755 boundaries of their responsibilities.
NOTE Confidence: 0.9869325

00:12:46.535 --> 00:12:47.735 And so as we analyze
NOTE Confidence: 0.9869325

00:12:47.735 --> 00:12:49.595 these statements, patterns emerged,
NOTE Confidence: 0.94008034

00:12:50.040 --> 00:12:51.640 and we categorized them as
NOTE Confidence: 0.94008034

00:12:51.640 --> 00:12:52.940 reflecting moral disengagement
NOTE Confidence: 0.99908227

00:12:53.559 --> 00:12:54.620 or moral engagement.
NOTE Confidence: 0.9940273

00:13:01.815 --> 00:13:02.934 We found that a subset
NOTE Confidence: 0.9940273

00:13:02.934 --> 00:13:04.615 of developers made statements that
NOTE Confidence: 0.9940273

00:13:04.615 --> 00:13:05.835 reflected distancing

NOTE Confidence: 0.998843

00:13:06.375 --> 00:13:08.395 themselves from harms or responsibilities

NOTE Confidence: 0.998843

00:13:08.695 --> 00:13:10.135 for those harms that were

NOTE Confidence: 0.998843

00:13:10.135 --> 00:13:11.575 similar to a phenomenon that

NOTE Confidence: 0.998843

00:13:11.575 --> 00:13:12.855 was described in the social

NOTE Confidence: 0.998843

00:13:12.855 --> 00:13:15.195 psychology literature as moral disengagement

NOTE Confidence: 0.99900746

00:13:15.900 --> 00:13:16.880 by Albert Bandura

NOTE Confidence: 0.9965862

00:13:17.260 --> 00:13:18.080 at Stanford,

NOTE Confidence: 0.9993301

00:13:18.780 --> 00:13:20.220 in nineteen ninety six, which

NOTE Confidence: 0.9993301

00:13:20.220 --> 00:13:21.440 I'll talk about later.

NOTE Confidence: 0.9911723

00:13:22.380 --> 00:13:23.980 So we could group these,

NOTE Confidence: 0.995539

00:13:24.300 --> 00:13:25.900 types of statements into two

NOTE Confidence: 0.995539

00:13:25.900 --> 00:13:27.840 broad categories. One was,

NOTE Confidence: 0.974008

00:13:28.540 --> 00:13:31.100 statements reflecting minimizing risks and

NOTE Confidence: 0.974008

00:13:31.100 --> 00:13:31.600 others,

NOTE Confidence: 0.9695609

00:13:32.275 --> 00:13:34.054 reflecting minimizing responsibility,

NOTE Confidence: 0.9739848

00:13:34.434 --> 00:13:36.115 each with four subtypes. And
NOTE Confidence: 0.9739848

00:13:36.115 --> 00:13:37.315 I'll show you example of
NOTE Confidence: 0.9739848

00:13:37.315 --> 00:13:38.054 some of these.
NOTE Confidence: 0.9786823

00:13:41.875 --> 00:13:42.355 So,
NOTE Confidence: 0.99687034

00:13:42.995 --> 00:13:44.755 there were eight different types
NOTE Confidence: 0.99687034

00:13:44.755 --> 00:13:45.235 of,
NOTE Confidence: 0.99829715

00:13:45.715 --> 00:13:46.775 subtypes of
NOTE Confidence: 0.97366834

00:13:47.529 --> 00:13:48.570 what we were calling at
NOTE Confidence: 0.97366834

00:13:48.570 --> 00:13:49.950 the time moral distancing
NOTE Confidence: 0.9639109

00:13:50.330 --> 00:13:51.850 before we knew that Albert
NOTE Confidence: 0.9639109

00:13:51.850 --> 00:13:53.929 Bandura had already characterized this
NOTE Confidence: 0.9639109

00:13:53.929 --> 00:13:55.550 phenomenon called moral disengagement.
NOTE Confidence: 0.98730177

00:13:56.330 --> 00:13:57.130 And we don't mean to
NOTE Confidence: 0.98730177

00:13:57.130 --> 00:13:58.410 imply that these statements are
NOTE Confidence: 0.98730177

00:13:58.410 --> 00:14:00.510 factually untrue or even necessarily
NOTE Confidence: 0.93590266

00:14:00.890 --> 00:14:02.970 normatively wrong, but sought to

NOTE Confidence: 0.93590266
00:14:02.970 --> 00:14:03.345 identify
NOTE Confidence: 0.20632803
00:14:09.937 --> 00:14:10.437 the
NOTE Confidence: 0.99386597
00:14:16.530 --> 00:14:17.490 I will show you some
NOTE Confidence: 0.99386597
00:14:17.490 --> 00:14:18.850 of these examples, not all
NOTE Confidence: 0.99386597
00:14:18.850 --> 00:14:19.730 eight of them, but I'll
NOTE Confidence: 0.99386597
00:14:19.730 --> 00:14:21.270 focus on these four
NOTE Confidence: 0.98962045
00:14:22.770 --> 00:14:23.730 just to give you a
NOTE Confidence: 0.98962045
00:14:23.730 --> 00:14:25.090 flavor for what these statements
NOTE Confidence: 0.98962045
00:14:25.090 --> 00:14:25.830 were like.
NOTE Confidence: 0.99940133
00:14:27.010 --> 00:14:28.870 So under moral disengagement,
NOTE Confidence: 0.9458188
00:14:30.585 --> 00:14:31.545 here are a couple different
NOTE Confidence: 0.9458188
00:14:31.545 --> 00:14:33.645 examples of minimizing risks.
NOTE Confidence: 0.9669275
00:14:34.345 --> 00:14:35.545 The first one we called
NOTE Confidence: 0.9669275
00:14:35.545 --> 00:14:37.305 no difference, meaning no difference
NOTE Confidence: 0.9669275
00:14:37.305 --> 00:14:39.325 between AI and some other
NOTE Confidence: 0.9669275

00:14:39.385 --> 00:14:39.885 situation.
NOTE Confidence: 0.9867832

00:14:40.905 --> 00:14:42.400 This developer says, it's like
NOTE Confidence: 0.9867832

00:14:42.400 --> 00:14:43.760 your financial data is out
NOTE Confidence: 0.9867832

00:14:43.760 --> 00:14:44.880 there too, and somebody can
NOTE Confidence: 0.9867832

00:14:44.880 --> 00:14:45.920 way more ruin your life
NOTE Confidence: 0.9867832

00:14:45.920 --> 00:14:47.220 from stealing your identity.
NOTE Confidence: 0.98928463

00:14:47.680 --> 00:14:48.880 So they're sort of equating
NOTE Confidence: 0.98928463

00:14:48.880 --> 00:14:50.820 medical data and financial data.
NOTE Confidence: 0.98373383

00:14:51.840 --> 00:14:52.800 In the second quote, it
NOTE Confidence: 0.98373383

00:14:52.800 --> 00:14:53.840 says, I think that the
NOTE Confidence: 0.98373383

00:14:53.840 --> 00:14:55.405 problem of bias may be
NOTE Confidence: 0.98373383

00:14:55.405 --> 00:14:56.765 more pertinent to other types
NOTE Confidence: 0.98373383

00:14:56.765 --> 00:14:58.765 of technologies, maybe like device
NOTE Confidence: 0.98373383

00:14:58.765 --> 00:14:59.265 technology.
NOTE Confidence: 0.98783594

00:14:59.805 --> 00:15:01.085 But all my experience has
NOTE Confidence: 0.98783594

00:15:01.085 --> 00:15:02.685 been in the clinical decision

NOTE Confidence: 0.98783594
00:15:02.685 --> 00:15:03.885 support world where I really
NOTE Confidence: 0.98783594
00:15:03.885 --> 00:15:04.845 don't see a huge amount
NOTE Confidence: 0.98783594
00:15:04.845 --> 00:15:06.125 of risk. This is sort
NOTE Confidence: 0.98783594
00:15:06.125 --> 00:15:07.485 of minimizing the risk in
NOTE Confidence: 0.98783594
00:15:07.485 --> 00:15:08.865 this situation where
NOTE Confidence: 0.8909889
00:15:09.200 --> 00:15:10.640 the low acknowledging risk in
NOTE Confidence: 0.8909889
00:15:10.640 --> 00:15:12.320 general, just not in my
NOTE Confidence: 0.8909889
00:15:12.320 --> 00:15:12.820 AI.
NOTE Confidence: 0.96374136
00:15:16.720 --> 00:15:18.260 Other types of moral engagement
NOTE Confidence: 0.96374136
00:15:18.400 --> 00:15:18.880 were,
NOTE Confidence: 0.9991654
00:15:19.839 --> 00:15:21.700 categorized as minimizing responsibility.
NOTE Confidence: 0.9829945
00:15:22.485 --> 00:15:23.524 We had a lot of
NOTE Confidence: 0.9829945
00:15:23.524 --> 00:15:25.045 comments that were like this
NOTE Confidence: 0.9829945
00:15:25.045 --> 00:15:26.325 one on the left, which
NOTE Confidence: 0.9829945
00:15:26.325 --> 00:15:27.765 says it totally leaves it
NOTE Confidence: 0.9829945

00:15:27.765 --> 00:15:29.285 in the clinician's hands. The
NOTE Confidence: 0.9829945

00:15:29.285 --> 00:15:31.065 clinician understands the context
NOTE Confidence: 0.9987261

00:15:31.524 --> 00:15:32.964 within which the prediction is
NOTE Confidence: 0.9987261

00:15:32.964 --> 00:15:33.925 made, and they know that
NOTE Confidence: 0.9987261

00:15:33.925 --> 00:15:35.045 it's up to them to
NOTE Confidence: 0.9987261

00:15:35.045 --> 00:15:36.565 decide whether or not the
NOTE Confidence: 0.9987261

00:15:36.565 --> 00:15:37.704 patient should be treated.
NOTE Confidence: 0.95360386

00:15:38.590 --> 00:15:39.630 So it's not the AI
NOTE Confidence: 0.95360386

00:15:39.630 --> 00:15:40.990 or the AI developer that's
NOTE Confidence: 0.95360386

00:15:40.990 --> 00:15:42.190 making the decisions as a
NOTE Confidence: 0.95360386

00:15:42.190 --> 00:15:42.690 clinician.
NOTE Confidence: 0.96424115

00:15:44.270 --> 00:15:45.010 And finally,
NOTE Confidence: 0.98254496

00:15:45.790 --> 00:15:47.070 we had some comments that
NOTE Confidence: 0.98254496

00:15:47.070 --> 00:15:48.690 were really placing the responsibility
NOTE Confidence: 0.98254496

00:15:48.990 --> 00:15:49.730 on regulation.
NOTE Confidence: 0.97812426

00:15:50.265 --> 00:15:51.625 So this person says there's

NOTE Confidence: 0.97812426
00:15:51.625 --> 00:15:52.825 federal laws in place to
NOTE Confidence: 0.97812426
00:15:52.825 --> 00:15:54.125 prevent that from happening,
NOTE Confidence: 0.9990523
00:15:54.585 --> 00:15:55.545 so that's why we were
NOTE Confidence: 0.9990523
00:15:55.545 --> 00:15:56.505 sort of okay with that
NOTE Confidence: 0.9990523
00:15:56.505 --> 00:15:57.245 moving forward.
NOTE Confidence: 0.9880866
00:16:02.185 --> 00:16:03.645 Most of these statements reflected,
NOTE Confidence: 0.9795154
00:16:04.105 --> 00:16:05.885 a sense of moral awareness
NOTE Confidence: 0.99811655
00:16:06.240 --> 00:16:07.440 about their roles when we
NOTE Confidence: 0.99811655
00:16:07.440 --> 00:16:09.300 found statements that we classified
NOTE Confidence: 0.99811655
00:16:09.360 --> 00:16:10.500 as moral engagement
NOTE Confidence: 0.9356642
00:16:10.959 --> 00:16:12.740 and a few highlighted actions,
NOTE Confidence: 0.9129236
00:16:13.279 --> 00:16:14.880 that the developers actually took
NOTE Confidence: 0.9129236
00:16:14.880 --> 00:16:15.920 or could take to mid
NOTE Confidence: 0.9129236
00:16:15.920 --> 00:16:17.140 guy mitigate harms.
NOTE Confidence: 0.9777763
00:16:19.965 --> 00:16:21.325 So here's a couple of
NOTE Confidence: 0.9777763

00:16:21.325 --> 00:16:23.185 examples. This person says,
NOTE Confidence: 0.97670394

00:16:23.805 --> 00:16:25.025 for some of these indications,
NOTE Confidence: 0.97670394

00:16:25.165 --> 00:16:26.785 there are very negative effects
NOTE Confidence: 0.97670394

00:16:26.925 --> 00:16:28.925 to incorrectly identifying a person
NOTE Confidence: 0.97670394

00:16:28.925 --> 00:16:30.625 either positively or negatively.
NOTE Confidence: 0.9128914

00:16:31.649 --> 00:16:32.610 Say the treatment for a
NOTE Confidence: 0.9128914

00:16:32.610 --> 00:16:34.450 certain indication, put somebody under
NOTE Confidence: 0.9128914

00:16:34.450 --> 00:16:35.430 a lot of distress,
NOTE Confidence: 0.9946025

00:16:35.889 --> 00:16:37.170 and if we falsely flag
NOTE Confidence: 0.9946025

00:16:37.170 --> 00:16:38.790 somebody as having that indication,
NOTE Confidence: 0.9946025

00:16:39.089 --> 00:16:40.769 then the culpability of that
NOTE Confidence: 0.9946025

00:16:40.769 --> 00:16:42.290 duress, you know, at least
NOTE Confidence: 0.9946025

00:16:42.290 --> 00:16:43.649 partly does lay on our
NOTE Confidence: 0.9946025

00:16:43.649 --> 00:16:44.149 shoulders.
NOTE Confidence: 0.97450584

00:16:44.745 --> 00:16:46.665 So they specifically recognize the
NOTE Confidence: 0.97450584

00:16:46.665 --> 00:16:47.725 developer's role.

NOTE Confidence: 0.9479494
00:16:50.025 --> 00:16:51.165 This person says,
NOTE Confidence: 0.9876683
00:16:51.705 --> 00:16:53.145 it's hard to realize that,
NOTE Confidence: 0.9876683
00:16:53.145 --> 00:16:54.825 hey. Somebody could actually not
NOTE Confidence: 0.9876683
00:16:54.825 --> 00:16:55.565 get treatment
NOTE Confidence: 0.9600752
00:16:56.345 --> 00:16:57.625 or a claim for somebody
NOTE Confidence: 0.9600752
00:16:57.625 --> 00:16:58.745 could be denied because you
NOTE Confidence: 0.9600752
00:16:58.745 --> 00:17:00.710 built a claims adjudicator algorithm.
NOTE Confidence: 0.9798777
00:17:01.250 --> 00:17:02.610 So that compass, I think,
NOTE Confidence: 0.9798777
00:17:02.610 --> 00:17:03.650 exists with us, and they're
NOTE Confidence: 0.9798777
00:17:03.650 --> 00:17:05.109 talking about a moral compass,
NOTE Confidence: 0.96055937
00:17:06.290 --> 00:17:07.650 because you can fine tune
NOTE Confidence: 0.96055937
00:17:07.650 --> 00:17:09.250 your algorithm to be more
NOTE Confidence: 0.96055937
00:17:09.250 --> 00:17:11.410 precise or more specific, like,
NOTE Confidence: 0.96055937
00:17:11.410 --> 00:17:12.770 for precision recall, and both
NOTE Confidence: 0.96055937
00:17:12.770 --> 00:17:14.205 have different implications.
NOTE Confidence: 0.97164357

00:17:14.585 --> 00:17:16.525 So here, they're also linking
NOTE Confidence: 0.9992327

00:17:17.065 --> 00:17:18.905 AI specific design decisions to
NOTE Confidence: 0.9992327

00:17:18.905 --> 00:17:19.885 the harm mitigation.
NOTE Confidence: 0.9971504

00:17:24.744 --> 00:17:26.665 This person even recognizes the
NOTE Confidence: 0.9971504

00:17:26.665 --> 00:17:28.250 power that is conferred by
NOTE Confidence: 0.9971504

00:17:28.250 --> 00:17:29.769 specialized knowledge and how they
NOTE Confidence: 0.9971504

00:17:29.769 --> 00:17:31.049 could use it, which is
NOTE Confidence: 0.9971504

00:17:31.049 --> 00:17:32.590 the hallmark of a professional
NOTE Confidence: 0.9971504

00:17:32.730 --> 00:17:33.230 responsibility.
NOTE Confidence: 0.96530765

00:17:34.090 --> 00:17:35.289 This person says a data
NOTE Confidence: 0.96530765

00:17:35.289 --> 00:17:36.970 scientist has tremendous powers here
NOTE Confidence: 0.96530765

00:17:36.970 --> 00:17:38.269 because it's like your stakeholders
NOTE Confidence: 0.96530765

00:17:38.330 --> 00:17:39.389 don't really understand
NOTE Confidence: 0.9495813

00:17:40.325 --> 00:17:41.925 what precision recall is and
NOTE Confidence: 0.9495813

00:17:41.925 --> 00:17:43.145 then goes on to say,
NOTE Confidence: 0.9849455

00:17:43.684 --> 00:17:44.805 I think I would rather

NOTE Confidence: 0.9849455
00:17:44.805 --> 00:17:46.005 that people have their claims
NOTE Confidence: 0.9849455
00:17:46.005 --> 00:17:47.525 paid than denied. So I
NOTE Confidence: 0.9849455
00:17:47.525 --> 00:17:48.725 will just tune it for
NOTE Confidence: 0.9849455
00:17:48.725 --> 00:17:49.465 true positives.
NOTE Confidence: 0.9066572
00:17:54.180 --> 00:17:55.619 So finally, a couple a
NOTE Confidence: 0.9066572
00:17:55.619 --> 00:17:56.500 comment here,
NOTE Confidence: 0.99174017
00:17:58.020 --> 00:17:59.859 that describes taking action to
NOTE Confidence: 0.99174017
00:17:59.859 --> 00:18:00.359 mitigate
NOTE Confidence: 0.9974873
00:18:00.660 --> 00:18:01.560 potential harms.
NOTE Confidence: 0.961288
00:18:02.100 --> 00:18:03.300 This person said, we've made
NOTE Confidence: 0.961288
00:18:03.300 --> 00:18:04.840 a decision as an organization.
NOTE Confidence: 0.9915017
00:18:05.565 --> 00:18:06.845 Like, if somebody doesn't have
NOTE Confidence: 0.9915017
00:18:06.845 --> 00:18:08.465 HIV as a current diagnosis
NOTE Confidence: 0.9915017
00:18:08.524 --> 00:18:09.984 and the machine is identifying
NOTE Confidence: 0.9915017
00:18:10.044 --> 00:18:11.565 that next year, they might
NOTE Confidence: 0.9915017

00:18:11.565 --> 00:18:12.605 have that as a driver
NOTE Confidence: 0.9915017

00:18:12.605 --> 00:18:14.125 for cost. So we don't
NOTE Confidence: 0.9915017

00:18:14.125 --> 00:18:15.644 deliver that because we don't
NOTE Confidence: 0.9915017

00:18:15.644 --> 00:18:16.524 know how that would be
NOTE Confidence: 0.9915017

00:18:16.524 --> 00:18:17.884 used, meaning they don't deliver
NOTE Confidence: 0.9915017

00:18:17.884 --> 00:18:18.784 it to the client.
NOTE Confidence: 0.98465693

00:18:22.890 --> 00:18:24.830 We also saw that developers,
NOTE Confidence: 0.99669677

00:18:25.690 --> 00:18:26.810 some were in a state
NOTE Confidence: 0.99669677

00:18:26.810 --> 00:18:27.550 of conflict,
NOTE Confidence: 0.93911487

00:18:28.410 --> 00:18:29.950 mostly financial conflict.
NOTE Confidence: 0.96782243

00:18:30.890 --> 00:18:31.390 So,
NOTE Confidence: 0.99939185

00:18:32.250 --> 00:18:33.950 this top quote talks about
NOTE Confidence: 0.9888037

00:18:34.405 --> 00:18:36.244 seeing predictive models being built
NOTE Confidence: 0.9888037

00:18:36.244 --> 00:18:37.305 based on cost,
NOTE Confidence: 0.9943022

00:18:38.244 --> 00:18:39.365 and that leads to all
NOTE Confidence: 0.9943022

00:18:39.365 --> 00:18:41.205 sorts of potentially irrelevant or

NOTE Confidence: 0.9943022

00:18:41.205 --> 00:18:43.045 even slightly harmful socially or

NOTE Confidence: 0.9943022

00:18:43.045 --> 00:18:45.365 clinically predict clinical predictions being

NOTE Confidence: 0.9943022

00:18:45.365 --> 00:18:45.865 made.

NOTE Confidence: 0.99721974

00:18:46.500 --> 00:18:48.020 The second person talks about

NOTE Confidence: 0.99721974

00:18:48.020 --> 00:18:49.480 being involved to help,

NOTE Confidence: 0.9767913

00:18:50.420 --> 00:18:52.500 an analytic team determine some

NOTE Confidence: 0.9767913

00:18:52.500 --> 00:18:54.040 of the more useful inputs

NOTE Confidence: 0.9767913

00:18:54.180 --> 00:18:55.380 and also the outcome of

NOTE Confidence: 0.9767913

00:18:55.380 --> 00:18:56.660 interest, and they did steer

NOTE Confidence: 0.9767913

00:18:56.660 --> 00:18:58.020 them away from cost based

NOTE Confidence: 0.9767913

00:18:58.020 --> 00:18:58.520 outcomes.

NOTE Confidence: 0.9816796

00:19:03.215 --> 00:19:05.715 However, sometimes developers seemed unsure

NOTE Confidence: 0.9816796

00:19:06.015 --> 00:19:07.535 of how to mitigate risks

NOTE Confidence: 0.9816796

00:19:07.535 --> 00:19:09.295 or, were resigned to the

NOTE Confidence: 0.9816796

00:19:09.295 --> 00:19:10.815 direction that their companies would

NOTE Confidence: 0.9816796

00:19:10.815 --> 00:19:11.315 take.
NOTE Confidence: 0.9829283

00:19:12.015 --> 00:19:13.615 This first developer says, what
NOTE Confidence: 0.9829283

00:19:13.615 --> 00:19:14.735 are the safeguards we put
NOTE Confidence: 0.9829283

00:19:14.735 --> 00:19:15.695 in to make sure that
NOTE Confidence: 0.9829283

00:19:15.695 --> 00:19:16.195 when,
NOTE Confidence: 0.9666348

00:19:17.240 --> 00:19:18.840 genomic data gets other sources
NOTE Confidence: 0.9666348

00:19:18.840 --> 00:19:20.279 of data that it doesn't
NOTE Confidence: 0.9666348

00:19:20.279 --> 00:19:21.820 even go near underwriters?
NOTE Confidence: 0.9831362

00:19:22.279 --> 00:19:23.159 You know, how do we
NOTE Confidence: 0.9831362

00:19:23.159 --> 00:19:24.759 quarantine that data so it's
NOTE Confidence: 0.9831362

00:19:24.759 --> 00:19:26.600 only used to improve patient
NOTE Confidence: 0.9831362

00:19:26.600 --> 00:19:27.820 outcomes and never
NOTE Confidence: 0.7585355

00:19:28.200 --> 00:19:28.700 for,
NOTE Confidence: 0.9942009

00:19:29.240 --> 00:19:30.919 estimating risk for the business
NOTE Confidence: 0.9942009

00:19:30.919 --> 00:19:31.419 side?
NOTE Confidence: 0.9245806

00:19:32.595 --> 00:19:33.335 And finally,

NOTE Confidence: 0.94440186

00:19:34.835 --> 00:19:36.835 this, developer says, these are

NOTE Confidence: 0.94440186

00:19:36.835 --> 00:19:38.215 not things that I advocate

NOTE Confidence: 0.94440186

00:19:38.275 --> 00:19:40.135 nor does our company advocate

NOTE Confidence: 0.94440186

00:19:40.195 --> 00:19:41.315 at all. But at the

NOTE Confidence: 0.94440186

00:19:41.315 --> 00:19:42.195 end of a day the

NOTE Confidence: 0.94440186

00:19:42.195 --> 00:19:43.715 day, a company's gonna do

NOTE Confidence: 0.94440186

00:19:43.715 --> 00:19:45.255 what a company's gonna do.

NOTE Confidence: 0.982

00:19:48.460 --> 00:19:49.740 So we discovered that the

NOTE Confidence: 0.982

00:19:49.740 --> 00:19:51.740 statements here have similarities, as

NOTE Confidence: 0.982

00:19:51.740 --> 00:19:53.179 I mentioned, to features of

NOTE Confidence: 0.982

00:19:53.179 --> 00:19:54.720 the construct of moral disengagement.

NOTE Confidence: 0.98179036

00:19:55.740 --> 00:19:56.799 And this diagram,

NOTE Confidence: 0.9148467

00:19:57.340 --> 00:19:59.115 is from Albert Bender's book

NOTE Confidence: 0.9148467

00:19:59.115 --> 00:20:00.095 book on moral disengagement.

NOTE Confidence: 0.97795403

00:20:00.554 --> 00:20:01.355 And you can see in

NOTE Confidence: 0.97795403

00:20:01.355 --> 00:20:02.554 these small boxes at the
NOTE Confidence: 0.97795403

00:20:02.554 --> 00:20:04.175 top some of the subtypes
NOTE Confidence: 0.97795403

00:20:04.315 --> 00:20:04.715 he,
NOTE Confidence: 0.9962361

00:20:05.915 --> 00:20:06.655 he found,
NOTE Confidence: 0.9988834

00:20:07.115 --> 00:20:08.494 including moral justification,
NOTE Confidence: 0.97390264

00:20:09.515 --> 00:20:11.515 palliative comparison, which is sort
NOTE Confidence: 0.97390264

00:20:11.515 --> 00:20:11.675 of,
NOTE Confidence: 0.998466

00:20:12.890 --> 00:20:14.010 kind of similar to what
NOTE Confidence: 0.998466

00:20:14.010 --> 00:20:15.370 we saw when people were
NOTE Confidence: 0.998466

00:20:15.370 --> 00:20:17.130 comparing financial data to health
NOTE Confidence: 0.998466

00:20:17.130 --> 00:20:17.630 data,
NOTE Confidence: 0.99905205

00:20:17.930 --> 00:20:18.430 euphemistic
NOTE Confidence: 0.99428505

00:20:18.810 --> 00:20:20.170 labeling, which is another way
NOTE Confidence: 0.99428505

00:20:20.170 --> 00:20:21.470 of minimizing risks,
NOTE Confidence: 0.96760154

00:20:22.250 --> 00:20:23.550 or minimizing the,
NOTE Confidence: 0.9978228

00:20:24.010 --> 00:20:25.310 or ignoring the consequences,

NOTE Confidence: 0.99763757
00:20:26.410 --> 00:20:28.125 as well as displacement of
NOTE Confidence: 0.99763757
00:20:28.365 --> 00:20:28.865 responsibility.
NOTE Confidence: 0.9996403
00:20:29.325 --> 00:20:31.105 So there are similarities here.
NOTE Confidence: 0.9922613
00:20:32.125 --> 00:20:32.865 And so,
NOTE Confidence: 0.9898956
00:20:33.484 --> 00:20:34.925 as part of this theory,
NOTE Confidence: 0.9898956
00:20:34.925 --> 00:20:36.285 which is a cognitive theory
NOTE Confidence: 0.9898956
00:20:36.285 --> 00:20:37.025 of morality,
NOTE Confidence: 0.99922633
00:20:39.244 --> 00:20:40.065 self regulation
NOTE Confidence: 0.9833091
00:20:41.100 --> 00:20:43.420 and self sanctions inside each
NOTE Confidence: 0.9833091
00:20:43.420 --> 00:20:44.880 of us act to translate
NOTE Confidence: 0.9833091
00:20:44.940 --> 00:20:46.640 moral reasoning into action,
NOTE Confidence: 0.99887824
00:20:47.100 --> 00:20:48.240 and moral disengagement
NOTE Confidence: 0.99651724
00:20:48.619 --> 00:20:49.740 has been proposed as a
NOTE Confidence: 0.99651724
00:20:49.740 --> 00:20:50.960 psychological mechanism,
NOTE Confidence: 0.9983249
00:20:51.900 --> 00:20:53.580 that interferes with this self
NOTE Confidence: 0.9983249

00:20:53.580 --> 00:20:55.795 regulatory process. So another way
NOTE Confidence: 0.9983249

00:20:55.795 --> 00:20:57.155 of saying this is that
NOTE Confidence: 0.9983249

00:20:57.155 --> 00:20:58.615 the theory seeks to explain
NOTE Confidence: 0.999873

00:20:58.915 --> 00:21:00.675 why good people do bad
NOTE Confidence: 0.999873

00:21:00.675 --> 00:21:01.175 things.
NOTE Confidence: 0.998274

00:21:02.195 --> 00:21:03.635 You can see similarities in
NOTE Confidence: 0.998274

00:21:03.635 --> 00:21:04.295 the subtypes
NOTE Confidence: 0.9765573

00:21:04.755 --> 00:21:06.595 identified Bandura and those that
NOTE Confidence: 0.9765573

00:21:06.595 --> 00:21:08.140 we found. And so to
NOTE Confidence: 0.9765573

00:21:08.140 --> 00:21:09.920 the extent that similar mechanisms
NOTE Confidence: 0.9765573

00:21:10.140 --> 00:21:11.580 may be in play, this
NOTE Confidence: 0.9765573

00:21:11.580 --> 00:21:13.020 might suggest or we thought
NOTE Confidence: 0.9765573

00:21:13.020 --> 00:21:14.480 it might suggest that cognitive
NOTE Confidence: 0.9765573

00:21:14.619 --> 00:21:16.940 mechanisms can also counteract moral
NOTE Confidence: 0.9765573

00:21:16.940 --> 00:21:17.440 disengagement.
NOTE Confidence: 0.97082806

00:21:23.565 --> 00:21:25.265 Our findings of moral distancing,

NOTE Confidence: 0.87741596
00:21:25.885 --> 00:21:27.025 were actually corroborating
NOTE Confidence: 0.95923615
00:21:27.405 --> 00:21:28.685 those of others who have
NOTE Confidence: 0.95923615
00:21:28.685 --> 00:21:30.845 observed computer scientists or AI
NOTE Confidence: 0.95923615
00:21:30.845 --> 00:21:31.984 developers' rationales
NOTE Confidence: 0.990716
00:21:32.445 --> 00:21:33.244 for response
NOTE Confidence: 0.94910526
00:21:34.125 --> 00:21:36.125 detachment from responsibility for their
NOTE Confidence: 0.94910526
00:21:36.125 --> 00:21:36.625 work.
NOTE Confidence: 0.85512114
00:21:36.950 --> 00:21:37.850 So for example,
NOTE Confidence: 0.8622162
00:21:38.309 --> 00:21:39.690 Vakuri and colleagues,
NOTE Confidence: 0.9997271
00:21:41.190 --> 00:21:42.730 heard several types of explanations
NOTE Confidence: 0.9997271
00:21:42.869 --> 00:21:44.550 for why ethical concerns were
NOTE Confidence: 0.9997271
00:21:44.550 --> 00:21:46.330 not relevant to their work.
NOTE Confidence: 0.9704518
00:21:46.869 --> 00:21:48.470 One was if projects were
NOTE Confidence: 0.9704518
00:21:48.470 --> 00:21:49.670 at a early stage or
NOTE Confidence: 0.9704518
00:21:49.670 --> 00:21:50.570 just a prototype,
NOTE Confidence: 0.99957436

00:21:50.905 --> 00:21:52.425 they didn't raise any ethical
NOTE Confidence: 0.99957436

00:21:52.425 --> 00:21:52.925 concerns.
NOTE Confidence: 0.7536876

00:21:54.345 --> 00:21:55.885 Gauthier Barn and others,
NOTE Confidence: 0.9980718

00:21:56.825 --> 00:21:58.505 also found that computer scientists
NOTE Confidence: 0.9980718

00:21:58.505 --> 00:21:59.865 and students had a narrow
NOTE Confidence: 0.9980718

00:21:59.865 --> 00:22:00.925 view of responsibility
NOTE Confidence: 0.98652923

00:22:01.785 --> 00:22:03.545 that created moral distance by
NOTE Confidence: 0.98652923

00:22:03.545 --> 00:22:05.750 either being task oriented, such
NOTE Confidence: 0.98652923

00:22:05.750 --> 00:22:07.289 as trying to achieve efficiency,
NOTE Confidence: 0.91053927

00:22:08.789 --> 00:22:10.730 deflecting blame for errors,
NOTE Confidence: 0.9829936

00:22:11.109 --> 00:22:13.609 so framing flaws in programming
NOTE Confidence: 0.9829936

00:22:13.909 --> 00:22:15.369 as computer error,
NOTE Confidence: 0.9655479

00:22:16.230 --> 00:22:17.830 or by casting failures in
NOTE Confidence: 0.9655479

00:22:17.830 --> 00:22:19.830 software as inevitable or normal
NOTE Confidence: 0.9655479

00:22:19.830 --> 00:22:20.002 accident.
NOTE Confidence: 0.96773744

00:22:21.855 --> 00:22:23.935 And finally, Bandura himself, working

NOTE Confidence: 0.96773744
00:22:23.935 --> 00:22:25.295 with my former mentor at
NOTE Confidence: 0.96773744
00:22:25.295 --> 00:22:26.675 UCSF, Lisa Barrow,
NOTE Confidence: 0.98786604
00:22:27.135 --> 00:22:27.615 studied,
NOTE Confidence: 0.9996315
00:22:27.935 --> 00:22:29.875 the writings of researchers
NOTE Confidence: 0.8006639
00:22:30.175 --> 00:22:31.315 who studied tobacco,
NOTE Confidence: 0.9542681
00:22:31.855 --> 00:22:34.190 lead, vinyl chloride, and silicosis
NOTE Confidence: 0.9542681
00:22:34.330 --> 00:22:35.710 and their effects in humans
NOTE Confidence: 0.9547873
00:22:36.090 --> 00:22:37.290 and found all eight of
NOTE Confidence: 0.9547873
00:22:37.290 --> 00:22:39.530 the subtypes that, Bandura had
NOTE Confidence: 0.9547873
00:22:39.530 --> 00:22:40.030 identified
NOTE Confidence: 0.99840087
00:22:40.410 --> 00:22:41.470 of moral engagement.
NOTE Confidence: 0.9684279
00:22:44.655 --> 00:22:46.275 So we sought to define
NOTE Confidence: 0.9684279
00:22:46.335 --> 00:22:48.095 or design an intervention to
NOTE Confidence: 0.9684279
00:22:48.095 --> 00:22:49.455 shift to try to shift
NOTE Confidence: 0.9684279
00:22:49.455 --> 00:22:50.435 people from,
NOTE Confidence: 0.95776063

00:22:51.135 --> 00:22:52.734 a moral awareness, which we
NOTE Confidence: 0.95776063

00:22:52.734 --> 00:22:54.415 felt like they already had
NOTE Confidence: 0.95776063

00:22:54.415 --> 00:22:56.595 a a handle on, towards,
NOTE Confidence: 0.98001975

00:22:57.135 --> 00:22:59.475 moral action through moral intention
NOTE Confidence: 0.98001975

00:22:59.535 --> 00:23:00.435 and responsibility.
NOTE Confidence: 0.974013

00:23:03.590 --> 00:23:04.710 And here, I just wanna
NOTE Confidence: 0.974013

00:23:04.710 --> 00:23:06.070 acknowledge the team members that
NOTE Confidence: 0.974013

00:23:06.070 --> 00:23:07.290 worked with me on this,
NOTE Confidence: 0.96648276

00:23:08.070 --> 00:23:10.070 both at the Department of
NOTE Confidence: 0.96648276

00:23:10.070 --> 00:23:11.430 Medical Ethics and Health Policy
NOTE Confidence: 0.96648276

00:23:11.430 --> 00:23:12.810 at the University of Pennsylvania,
NOTE Confidence: 0.92403823

00:23:13.385 --> 00:23:15.545 including Pamela Sankar and, graduate
NOTE Confidence: 0.92403823

00:23:15.545 --> 00:23:17.705 student Yuting Xu, and Matt
NOTE Confidence: 0.92403823

00:23:17.705 --> 00:23:19.065 Kearney at the,
NOTE Confidence: 0.896586

00:23:19.705 --> 00:23:21.305 Mixed Methods Research Lab at
NOTE Confidence: 0.896586

00:23:21.305 --> 00:23:21.805 Penn.

NOTE Confidence: 0.9966037

00:23:22.265 --> 00:23:23.244 And on the left,

NOTE Confidence: 0.8459064

00:23:23.865 --> 00:23:24.685 Temi Denbravan,

NOTE Confidence: 0.9383535

00:23:24.985 --> 00:23:26.345 who is a master's student,

NOTE Confidence: 0.9383535

00:23:26.345 --> 00:23:27.405 and Ari Nickel,

NOTE Confidence: 0.9697229

00:23:27.929 --> 00:23:29.869 who's now a medical resident.

NOTE Confidence: 0.98987913

00:23:31.369 --> 00:23:32.809 And I also wanna acknowledge

NOTE Confidence: 0.98987913

00:23:32.809 --> 00:23:34.090 the funding I had from

NOTE Confidence: 0.98987913

00:23:34.090 --> 00:23:36.330 the Greenwall Foundation and from

NOTE Confidence: 0.98987913

00:23:36.330 --> 00:23:38.190 the NIH for these studies.

NOTE Confidence: 0.9992887

00:23:42.635 --> 00:23:43.994 So how did we try

NOTE Confidence: 0.9992887

00:23:43.994 --> 00:23:45.535 to increase moral engagement?

NOTE Confidence: 0.9969192

00:23:46.635 --> 00:23:48.715 The social cognitive theory suggests

NOTE Confidence: 0.9969192

00:23:48.715 --> 00:23:50.494 that enhancing self efficacy

NOTE Confidence: 0.99505866

00:23:50.955 --> 00:23:52.815 can counteract moral disengagement

NOTE Confidence: 0.9778917

00:23:53.355 --> 00:23:55.135 and that empathy and perspective

NOTE Confidence: 0.9778917

00:23:55.275 --> 00:23:55.775 taking
NOTE Confidence: 0.99906665

00:23:56.290 --> 00:23:57.490 plays a role in self
NOTE Confidence: 0.99906665

00:23:57.490 --> 00:23:57.990 efficacy.
NOTE Confidence: 0.9997137

00:23:59.010 --> 00:24:00.290 We also got some hints
NOTE Confidence: 0.9997137

00:24:00.290 --> 00:24:01.109 from the literature
NOTE Confidence: 0.99783146

00:24:01.570 --> 00:24:03.750 describing a hypothetical design exercise
NOTE Confidence: 0.99783146

00:24:03.970 --> 00:24:05.990 that involved asking computer science
NOTE Confidence: 0.99798656

00:24:06.530 --> 00:24:08.690 students to imagine an AI
NOTE Confidence: 0.99798656

00:24:08.690 --> 00:24:10.869 design intended to predict success
NOTE Confidence: 0.99798656

00:24:10.930 --> 00:24:11.430 of
NOTE Confidence: 0.9997945

00:24:12.075 --> 00:24:13.455 computer science students
NOTE Confidence: 0.9885516

00:24:14.395 --> 00:24:15.274 so that they would be
NOTE Confidence: 0.9885516

00:24:15.274 --> 00:24:16.875 able to imagine themselves in
NOTE Confidence: 0.9885516

00:24:16.875 --> 00:24:17.534 the role
NOTE Confidence: 0.9902103

00:24:17.914 --> 00:24:18.955 of the,
NOTE Confidence: 0.95844007

00:24:19.755 --> 00:24:20.255 the,

NOTE Confidence: 0.99718004

00:24:21.274 --> 00:24:22.395 the people who would be

NOTE Confidence: 0.99718004

00:24:22.395 --> 00:24:22.895 affected

NOTE Confidence: 0.996321

00:24:23.355 --> 00:24:24.815 by this AI design.

NOTE Confidence: 0.9699372

00:24:25.789 --> 00:24:26.830 And in this study, they

NOTE Confidence: 0.9699372

00:24:26.830 --> 00:24:28.350 found that students are not

NOTE Confidence: 0.9699372

00:24:28.350 --> 00:24:30.270 predisposed to think deeply about

NOTE Confidence: 0.9699372

00:24:30.270 --> 00:24:32.289 the implications of AI design

NOTE Confidence: 0.99768734

00:24:32.909 --> 00:24:34.909 for the privacy or well-being

NOTE Confidence: 0.99768734

00:24:34.909 --> 00:24:36.990 of others unless explicitly encouraged

NOTE Confidence: 0.99768734

00:24:36.990 --> 00:24:37.809 to do so.

NOTE Confidence: 0.9724559

00:24:38.455 --> 00:24:39.975 When they do, their thinking

NOTE Confidence: 0.9724559

00:24:39.975 --> 00:24:41.255 is focused through the lens

NOTE Confidence: 0.9724559

00:24:41.255 --> 00:24:42.395 of personal identity

NOTE Confidence: 0.9996295

00:24:42.935 --> 00:24:43.755 and experience

NOTE Confidence: 0.9563646

00:24:44.055 --> 00:24:45.335 and that many need help

NOTE Confidence: 0.9563646

00:24:45.335 --> 00:24:46.875 to do this empathy work

NOTE Confidence: 0.9563646

00:24:46.935 --> 00:24:48.535 to shift their thinking from

NOTE Confidence: 0.9563646

00:24:48.535 --> 00:24:50.070 technical features of design,

NOTE Confidence: 0.94290596

00:24:50.389 --> 00:24:52.009 such as statistical bias,

NOTE Confidence: 0.9641269

00:24:52.309 --> 00:24:54.070 towards moral implications, such as

NOTE Confidence: 0.9641269

00:24:54.070 --> 00:24:54.570 equity

NOTE Confidence: 0.97655654

00:24:55.029 --> 00:24:55.850 or fairness.

NOTE Confidence: 0.9658929

00:24:56.389 --> 00:24:57.830 So these authors said it's

NOTE Confidence: 0.9658929

00:24:57.830 --> 00:24:58.950 only in the context of

NOTE Confidence: 0.9658929

00:24:58.950 --> 00:25:00.649 a hypothetical design exercise

NOTE Confidence: 0.9160513

00:25:01.190 --> 00:25:02.950 framed deliberately around their own

NOTE Confidence: 0.9160513

00:25:02.950 --> 00:25:03.450 experience,

NOTE Confidence: 0.98721135

00:25:04.484 --> 00:25:05.684 that a broader set of

NOTE Confidence: 0.98721135

00:25:05.684 --> 00:25:06.984 students seems to equipped

NOTE Confidence: 0.9894372

00:25:07.445 --> 00:25:08.805 seemed equipped to think about

NOTE Confidence: 0.9894372

00:25:08.805 --> 00:25:10.984 identity related structural barriers.

NOTE Confidence: 0.95302093

00:25:16.760 --> 00:25:17.720 So we took this,

NOTE Confidence: 0.9964879

00:25:18.520 --> 00:25:20.440 information and chose a to

NOTE Confidence: 0.9964879

00:25:20.440 --> 00:25:21.900 use a real time approach,

NOTE Confidence: 0.9950939

00:25:22.680 --> 00:25:24.520 that was organized around AI

NOTE Confidence: 0.9950939

00:25:24.520 --> 00:25:25.500 design considerations.

NOTE Confidence: 0.99728364

00:25:26.600 --> 00:25:27.560 And I will just note

NOTE Confidence: 0.99728364

00:25:27.560 --> 00:25:29.240 here, we did not really

NOTE Confidence: 0.99728364

00:25:29.240 --> 00:25:30.280 try to use the word

NOTE Confidence: 0.99728364

00:25:30.280 --> 00:25:32.375 ethics anywhere in our communications

NOTE Confidence: 0.99728364

00:25:32.595 --> 00:25:34.035 with these people in order

NOTE Confidence: 0.99728364

00:25:34.035 --> 00:25:35.395 to reduce the tendency of

NOTE Confidence: 0.99728364

00:25:35.395 --> 00:25:36.755 people to get defensive about

NOTE Confidence: 0.99728364

00:25:36.755 --> 00:25:37.715 what we're asking them to

NOTE Confidence: 0.99728364

00:25:37.715 --> 00:25:38.215 do.

NOTE Confidence: 0.98652905

00:25:39.155 --> 00:25:40.115 And we used a group

NOTE Confidence: 0.98652905

00:25:40.115 --> 00:25:41.895 format to encourage participants
NOTE Confidence: 0.9961938

00:25:42.195 --> 00:25:43.734 to articulate their considerations
NOTE Confidence: 0.9991767

00:25:44.195 --> 00:25:45.795 to each other and justify
NOTE Confidence: 0.9991767

00:25:45.795 --> 00:25:46.295 them
NOTE Confidence: 0.99852526

00:25:47.150 --> 00:25:49.330 And to encourage perspective taking,
NOTE Confidence: 0.97155535

00:25:50.109 --> 00:25:51.630 which is defined as learning
NOTE Confidence: 0.97155535

00:25:51.630 --> 00:25:52.909 to look at a situation
NOTE Confidence: 0.97155535

00:25:52.909 --> 00:25:54.590 from a viewpoint different from
NOTE Confidence: 0.97155535

00:25:54.590 --> 00:25:57.090 one's own, we use hypothetical
NOTE Confidence: 0.97155535

00:25:57.230 --> 00:25:59.150 scenarios in which participants are
NOTE Confidence: 0.97155535

00:25:59.150 --> 00:26:00.830 asked to imagine another's world
NOTE Confidence: 0.97155535

00:26:00.830 --> 00:26:02.029 and more about that in
NOTE Confidence: 0.97155535

00:26:02.029 --> 00:26:02.565 a minute.
NOTE Confidence: 0.94646347

00:26:05.524 --> 00:26:07.365 So because the literature suggested
NOTE Confidence: 0.94646347

00:26:07.365 --> 00:26:08.664 it could be more effective
NOTE Confidence: 0.9963197

00:26:08.965 --> 00:26:11.144 at influencing perspective taking,

NOTE Confidence: 0.96504354

00:26:11.445 --> 00:26:13.125 we specifically use what is

NOTE Confidence: 0.96504354

00:26:13.125 --> 00:26:15.065 called an imagined self framing,

NOTE Confidence: 0.9990754

00:26:15.365 --> 00:26:17.205 which instructs AI developers to

NOTE Confidence: 0.9990754

00:26:17.205 --> 00:26:18.780 think about how they would

NOTE Confidence: 0.9990754

00:26:18.780 --> 00:26:20.220 feel or act in a

NOTE Confidence: 0.9990754

00:26:20.220 --> 00:26:21.040 certain situation.

NOTE Confidence: 0.98478824

00:26:21.580 --> 00:26:22.780 So, for example, how would

NOTE Confidence: 0.98478824

00:26:22.780 --> 00:26:24.140 you feel if you were

NOTE Confidence: 0.98478824

00:26:24.140 --> 00:26:25.340 a patient? And this is

NOTE Confidence: 0.98478824

00:26:25.340 --> 00:26:26.000 in contrast

NOTE Confidence: 0.98276055

00:26:26.300 --> 00:26:28.620 to imagine other framings, which

NOTE Confidence: 0.98276055

00:26:28.620 --> 00:26:30.460 instructs participants to think about

NOTE Confidence: 0.98276055

00:26:30.460 --> 00:26:32.175 how someone else would respond.

NOTE Confidence: 0.98276055

00:26:32.494 --> 00:26:33.935 So, for example, how do

NOTE Confidence: 0.98276055

00:26:33.935 --> 00:26:35.375 you think your patient would

NOTE Confidence: 0.98276055

00:26:35.375 --> 00:26:35.875 feel?
NOTE Confidence: 0.9950859

00:26:39.455 --> 00:26:41.295 So we conducted five ninety
NOTE Confidence: 0.9950859

00:26:41.295 --> 00:26:43.135 minute group exercises of four
NOTE Confidence: 0.9950859

00:26:43.135 --> 00:26:43.635 participants
NOTE Confidence: 0.9881201

00:26:43.935 --> 00:26:45.875 each over Zoom. This was
NOTE Confidence: 0.9881201

00:26:45.900 --> 00:26:47.119 during the height of COVID.
NOTE Confidence: 0.96842176

00:26:47.820 --> 00:26:49.680 And we recruited AI developers
NOTE Confidence: 0.96842176

00:26:49.740 --> 00:26:51.740 working at AI companies throughout
NOTE Confidence: 0.96842176

00:26:51.740 --> 00:26:53.760 the country making predictive analytic
NOTE Confidence: 0.96842176

00:26:53.820 --> 00:26:55.119 products for health care.
NOTE Confidence: 0.99472386

00:26:56.220 --> 00:26:56.720 And,
NOTE Confidence: 0.9512423

00:26:57.260 --> 00:26:58.000 our developers,
NOTE Confidence: 0.999757

00:26:58.619 --> 00:26:59.660 during the course of this
NOTE Confidence: 0.999757

00:26:59.660 --> 00:27:00.480 ninety minute
NOTE Confidence: 0.95544875

00:27:01.265 --> 00:27:03.685 group exercise, documented their considerations
NOTE Confidence: 0.97232145

00:27:03.985 --> 00:27:05.845 on a Miro whiteboard online,

NOTE Confidence: 0.97232145
00:27:05.985 --> 00:27:07.185 which they all had access
NOTE Confidence: 0.97232145
00:27:07.185 --> 00:27:07.925 to simultaneously.
NOTE Confidence: 0.9183145
00:27:08.865 --> 00:27:09.745 And we asked them to
NOTE Confidence: 0.9183145
00:27:09.745 --> 00:27:11.525 think aloud and rerecorded
NOTE Confidence: 0.9987023
00:27:11.825 --> 00:27:12.565 and transcribed
NOTE Confidence: 0.9973317
00:27:13.025 --> 00:27:14.325 the discussions for analysis.
NOTE Confidence: 0.9880566
00:27:17.740 --> 00:27:19.180 So we gave them three
NOTE Confidence: 0.9880566
00:27:19.180 --> 00:27:20.400 tasks in sequence.
NOTE Confidence: 0.9916782
00:27:22.220 --> 00:27:23.740 And in these tasks, we
NOTE Confidence: 0.9916782
00:27:23.740 --> 00:27:25.340 didn't actually ask them to
NOTE Confidence: 0.9916782
00:27:25.340 --> 00:27:26.400 design AI.
NOTE Confidence: 0.9935032
00:27:26.700 --> 00:27:28.140 We asked them to just
NOTE Confidence: 0.9935032
00:27:28.140 --> 00:27:30.585 describe the issues, steps, and
NOTE Confidence: 0.9935032
00:27:30.585 --> 00:27:31.085 considerations
NOTE Confidence: 0.9986765
00:27:31.625 --> 00:27:32.744 they would have if they
NOTE Confidence: 0.9986765

00:27:32.744 --> 00:27:33.885 were designing it.

NOTE Confidence: 0.9983627

00:27:34.425 --> 00:27:36.345 So task one was to

NOTE Confidence: 0.9983627

00:27:36.345 --> 00:27:38.185 outline a research project to

NOTE Confidence: 0.9983627

00:27:38.185 --> 00:27:39.965 predict the progression of prediabetes

NOTE Confidence: 0.99909127

00:27:40.585 --> 00:27:41.325 to diabetes.

NOTE Confidence: 0.9340205

00:27:42.310 --> 00:27:43.750 Task two was design it

NOTE Confidence: 0.9340205

00:27:43.830 --> 00:27:45.030 to design a tool to

NOTE Confidence: 0.9340205

00:27:45.030 --> 00:27:46.010 predict progression,

NOTE Confidence: 0.9878089

00:27:46.550 --> 00:27:48.230 to diabetes for a large

NOTE Confidence: 0.9878089

00:27:48.230 --> 00:27:49.210 health care system.

NOTE Confidence: 0.9994237

00:27:50.150 --> 00:27:51.750 Task three was to imagine

NOTE Confidence: 0.9994237

00:27:51.750 --> 00:27:52.810 that they were patients

NOTE Confidence: 0.99516517

00:27:53.190 --> 00:27:54.390 within the large health care

NOTE Confidence: 0.99516517

00:27:54.390 --> 00:27:55.670 system for which they were

NOTE Confidence: 0.99516517

00:27:55.670 --> 00:27:56.970 developing this tool.

NOTE Confidence: 0.98630655

00:28:00.375 --> 00:28:01.415 So I'll just show you

NOTE Confidence: 0.98630655

00:28:01.415 --> 00:28:02.775 what this looked like to

NOTE Confidence: 0.98630655

00:28:02.775 --> 00:28:04.715 them on the Miro board.

NOTE Confidence: 0.99842554

00:28:05.815 --> 00:28:07.515 We gave them the scenario

NOTE Confidence: 0.99842554

00:28:07.815 --> 00:28:09.015 on the left. You might

NOTE Confidence: 0.99842554

00:28:09.015 --> 00:28:09.815 not be able to read

NOTE Confidence: 0.99842554

00:28:09.815 --> 00:28:11.170 that, but it says that

NOTE Confidence: 0.99842554

00:28:11.170 --> 00:28:12.290 your first task is to

NOTE Confidence: 0.99842554

00:28:12.290 --> 00:28:13.590 work together to outline

NOTE Confidence: 0.99773103

00:28:13.890 --> 00:28:15.570 machine learning research to address

NOTE Confidence: 0.99773103

00:28:15.570 --> 00:28:17.250 the problem of increasing prevalence

NOTE Confidence: 0.99773103

00:28:17.250 --> 00:28:18.850 of diabetes in the US.

NOTE Confidence: 0.99773103

00:28:18.850 --> 00:28:19.890 The focus is on the

NOTE Confidence: 0.99773103

00:28:19.890 --> 00:28:21.270 transition from prediabetes

NOTE Confidence: 0.87787306

00:28:21.650 --> 00:28:22.310 to diabetes.

NOTE Confidence: 0.96549845

00:28:22.690 --> 00:28:23.990 And then we ask them

NOTE Confidence: 0.96549845

00:28:24.130 --> 00:28:24.630 to
NOTE Confidence: 0.9993286

00:28:26.035 --> 00:28:26.535 to
NOTE Confidence: 0.97862875

00:28:27.075 --> 00:28:28.675 talk about the issues, steps,
NOTE Confidence: 0.97862875

00:28:28.675 --> 00:28:30.115 and choices they imagine in
NOTE Confidence: 0.97862875

00:28:30.115 --> 00:28:31.975 making to complete this task.
NOTE Confidence: 0.9691761

00:28:32.675 --> 00:28:34.135 And we gave them very,
NOTE Confidence: 0.99482787

00:28:34.994 --> 00:28:37.575 very skeletal information about diabetes
NOTE Confidence: 0.99482787

00:28:37.635 --> 00:28:38.675 so that we were hoping
NOTE Confidence: 0.99482787

00:28:38.675 --> 00:28:39.795 they wouldn't focus too much
NOTE Confidence: 0.99482787

00:28:39.795 --> 00:28:41.015 on the technical details
NOTE Confidence: 0.9934179

00:28:41.360 --> 00:28:42.640 and really just talk about
NOTE Confidence: 0.9934179

00:28:42.640 --> 00:28:43.140 this,
NOTE Confidence: 0.9837826

00:28:43.440 --> 00:28:45.380 which is what their issues,
NOTE Confidence: 0.9837826

00:28:45.440 --> 00:28:46.880 steps, and choices came to
NOTE Confidence: 0.9837826

00:28:46.880 --> 00:28:48.160 mind, what things they would
NOTE Confidence: 0.9837826

00:28:48.160 --> 00:28:49.360 need to consider in the

NOTE Confidence: 0.9837826

00:28:49.360 --> 00:28:51.040 design task. And this is

NOTE Confidence: 0.9837826

00:28:51.040 --> 00:28:52.800 an actual mural board from

NOTE Confidence: 0.9837826

00:28:52.800 --> 00:28:53.940 one of these tasks

NOTE Confidence: 0.9951236

00:28:54.424 --> 00:28:56.265 where each participant is assigned

NOTE Confidence: 0.9951236

00:28:56.265 --> 00:28:57.465 a color of sticky note,

NOTE Confidence: 0.9951236

00:28:57.465 --> 00:28:58.505 and then they write their

NOTE Confidence: 0.9951236

00:28:58.505 --> 00:29:00.505 own thoughts individually in their

NOTE Confidence: 0.9951236

00:29:00.505 --> 00:29:01.325 sticky notes.

NOTE Confidence: 0.97574437

00:29:03.865 --> 00:29:05.225 Then we ask them to

NOTE Confidence: 0.97574437

00:29:05.225 --> 00:29:05.965 come together

NOTE Confidence: 0.972848

00:29:06.265 --> 00:29:08.820 for activity two, which is

NOTE Confidence: 0.972848

00:29:08.820 --> 00:29:09.320 to,

NOTE Confidence: 0.99958485

00:29:09.940 --> 00:29:12.100 document how the process should

NOTE Confidence: 0.99958485

00:29:12.100 --> 00:29:13.799 unfold of designing this,

NOTE Confidence: 0.99280375

00:29:14.340 --> 00:29:16.419 which required some consensus building

NOTE Confidence: 0.99280375

00:29:16.419 --> 00:29:17.460 and a lot of talking
NOTE Confidence: 0.99280375

00:29:17.460 --> 00:29:18.120 out loud.
NOTE Confidence: 0.9995996

00:29:18.500 --> 00:29:19.960 So after two tasks,
NOTE Confidence: 0.9679451

00:29:20.625 --> 00:29:22.225 participants were asked to complete
NOTE Confidence: 0.9679451

00:29:22.225 --> 00:29:24.225 a compare activity where they
NOTE Confidence: 0.9679451

00:29:24.225 --> 00:29:25.745 use their sticky notes to
NOTE Confidence: 0.9679451

00:29:25.745 --> 00:29:27.425 write down differences between their
NOTE Confidence: 0.9679451

00:29:27.425 --> 00:29:27.925 considerations
NOTE Confidence: 0.95555615

00:29:28.705 --> 00:29:29.985 in tasks one and two
NOTE Confidence: 0.95555615

00:29:29.985 --> 00:29:31.605 and then at again, after
NOTE Confidence: 0.95555615

00:29:31.665 --> 00:29:32.565 task three.
NOTE Confidence: 0.99158156

00:29:34.409 --> 00:29:35.929 So we were analyzing two
NOTE Confidence: 0.99158156

00:29:35.929 --> 00:29:37.210 different types of data. One
NOTE Confidence: 0.99158156

00:29:37.210 --> 00:29:38.570 is the actual writings on
NOTE Confidence: 0.99158156

00:29:38.570 --> 00:29:40.350 the sticky notes and then,
NOTE Confidence: 0.9137114

00:29:41.210 --> 00:29:41.690 the,

NOTE Confidence: 0.98714936
00:29:42.169 --> 00:29:43.630 analysis of the transcripts.
NOTE Confidence: 0.8988972
00:29:45.065 --> 00:29:45.565 And
NOTE Confidence: 0.9690372
00:29:45.865 --> 00:29:47.465 then we compared task one
NOTE Confidence: 0.9690372
00:29:47.465 --> 00:29:49.165 and two to task three.
NOTE Confidence: 0.98984134
00:29:50.905 --> 00:29:52.505 So throughout all of these
NOTE Confidence: 0.98984134
00:29:52.505 --> 00:29:53.565 tasks, people,
NOTE Confidence: 0.9522526
00:29:54.665 --> 00:29:56.265 talk we noticed patterns in
NOTE Confidence: 0.9522526
00:29:56.265 --> 00:29:57.304 what people talked about, and
NOTE Confidence: 0.9522526
00:29:57.304 --> 00:29:59.225 this included largely five different
NOTE Confidence: 0.9522526
00:29:59.225 --> 00:30:00.125 types of statements,
NOTE Confidence: 0.9984483
00:30:01.360 --> 00:30:02.980 including problem framing,
NOTE Confidence: 0.98844993
00:30:03.280 --> 00:30:04.100 data work,
NOTE Confidence: 0.99939185
00:30:04.640 --> 00:30:05.140 implementation,
NOTE Confidence: 0.99634194
00:30:06.080 --> 00:30:06.980 interest holders,
NOTE Confidence: 0.9997604
00:30:07.520 --> 00:30:09.220 and social and ethical issues.
NOTE Confidence: 0.9997604

00:30:09.280 --> 00:30:10.240 So I'll just show you
NOTE Confidence: 0.9997604

00:30:10.240 --> 00:30:10.980 some examples.
NOTE Confidence: 0.9996278

00:30:12.320 --> 00:30:13.840 These are examples of these
NOTE Confidence: 0.9996278

00:30:13.840 --> 00:30:14.340 five
NOTE Confidence: 0.9996331

00:30:14.895 --> 00:30:15.395 topics
NOTE Confidence: 0.98862606

00:30:16.095 --> 00:30:17.775 for task one and task
NOTE Confidence: 0.98862606

00:30:17.775 --> 00:30:18.275 two.
NOTE Confidence: 0.9995266

00:30:18.735 --> 00:30:19.235 So
NOTE Confidence: 0.9973096

00:30:19.615 --> 00:30:20.895 as they worked on task
NOTE Confidence: 0.9973096

00:30:20.895 --> 00:30:21.395 one,
NOTE Confidence: 0.9971784

00:30:21.695 --> 00:30:23.295 the comments fell into all
NOTE Confidence: 0.9971784

00:30:23.295 --> 00:30:24.035 five categories,
NOTE Confidence: 0.97792864

00:30:24.495 --> 00:30:25.775 but they focused a lot
NOTE Confidence: 0.97792864

00:30:25.775 --> 00:30:27.135 on framing the problem that
NOTE Confidence: 0.97792864

00:30:27.135 --> 00:30:28.095 they were going to work
NOTE Confidence: 0.97792864

00:30:28.095 --> 00:30:29.580 on and clarifying their goals

NOTE Confidence: 0.97792864
00:30:29.580 --> 00:30:30.960 in relation to the research.
NOTE Confidence: 0.9291432
00:30:31.420 --> 00:30:32.940 So, for example, in over
NOTE Confidence: 0.9291432
00:30:32.940 --> 00:30:33.660 on the left in the
NOTE Confidence: 0.9291432
00:30:33.660 --> 00:30:35.100 top, it says, clearly define
NOTE Confidence: 0.9291432
00:30:35.100 --> 00:30:35.920 the hypotheses.
NOTE Confidence: 0.99899244
00:30:36.460 --> 00:30:36.960 Biologically,
NOTE Confidence: 0.99707836
00:30:37.260 --> 00:30:38.700 how does this transition look
NOTE Confidence: 0.99707836
00:30:38.700 --> 00:30:39.200 like?
NOTE Confidence: 0.99962854
00:30:39.500 --> 00:30:40.000 Statistically,
NOTE Confidence: 0.95227647
00:30:40.380 --> 00:30:41.955 how should the transition be
NOTE Confidence: 0.95227647
00:30:42.115 --> 00:30:42.615 estimated?
NOTE Confidence: 0.99663216
00:30:43.154 --> 00:30:44.674 And concerns about access to
NOTE Confidence: 0.99663216
00:30:44.674 --> 00:30:46.674 data figured prominently in these
NOTE Confidence: 0.99663216
00:30:46.674 --> 00:30:47.174 exchanges.
NOTE Confidence: 0.9921039
00:30:48.674 --> 00:30:50.355 In task two, the comments
NOTE Confidence: 0.9921039

00:30:50.355 --> 00:30:51.735 bring in other issues
NOTE Confidence: 0.7996453

00:30:52.195 --> 00:30:53.015 such as,
NOTE Confidence: 0.98589844

00:30:53.394 --> 00:30:55.315 they start talking here about
NOTE Confidence: 0.98589844

00:30:55.315 --> 00:30:55.815 relevant
NOTE Confidence: 0.9673598

00:30:56.230 --> 00:30:56.730 stakeholders.
NOTE Confidence: 0.9422443

00:30:57.110 --> 00:30:58.710 They also talk about the
NOTE Confidence: 0.9422443

00:30:58.710 --> 00:31:00.570 meeting with the in infrastructure
NOTE Confidence: 0.9422443

00:31:00.789 --> 00:31:01.769 support team,
NOTE Confidence: 0.99100196

00:31:02.070 --> 00:31:03.529 and they also talk about,
NOTE Confidence: 0.99317473

00:31:04.549 --> 00:31:05.909 experience of the level of
NOTE Confidence: 0.99317473

00:31:05.909 --> 00:31:07.269 the users of the tool.
NOTE Confidence: 0.99317473

00:31:07.269 --> 00:31:08.470 So they're starting to talk
NOTE Confidence: 0.99317473

00:31:08.630 --> 00:31:10.090 think about other people.
NOTE Confidence: 0.94925356

00:31:13.485 --> 00:31:15.405 In task three, comments again
NOTE Confidence: 0.94925356

00:31:15.405 --> 00:31:17.105 fell into all five categories
NOTE Confidence: 0.8811809

00:31:17.965 --> 00:31:20.205 but included additional themes such

NOTE Confidence: 0.8811809
00:31:20.205 --> 00:31:21.665 as gaining insight
NOTE Confidence: 0.97235453
00:31:22.045 --> 00:31:23.485 from the experience of being
NOTE Confidence: 0.97235453
00:31:23.485 --> 00:31:25.110 in a patient to inform
NOTE Confidence: 0.97235453
00:31:25.110 --> 00:31:26.710 all stages of the development
NOTE Confidence: 0.97235453
00:31:26.710 --> 00:31:27.210 process.
NOTE Confidence: 0.958213
00:31:27.750 --> 00:31:29.190 And among the various interest
NOTE Confidence: 0.958213
00:31:29.190 --> 00:31:30.170 holders considers,
NOTE Confidence: 0.9978943
00:31:30.710 --> 00:31:32.230 patients were the most frequently
NOTE Confidence: 0.9978943
00:31:32.230 --> 00:31:32.730 mentioned.
NOTE Confidence: 0.99927294
00:31:33.670 --> 00:31:35.190 Social and ethical issues were
NOTE Confidence: 0.99927294
00:31:35.190 --> 00:31:36.630 often mentioned also through the
NOTE Confidence: 0.99927294
00:31:36.630 --> 00:31:38.170 lens of the patient experience.
NOTE Confidence: 0.9621547
00:31:38.865 --> 00:31:40.485 So these comments are qualitatively
NOTE Confidence: 0.9621547
00:31:40.705 --> 00:31:41.205 different,
NOTE Confidence: 0.971763
00:31:43.105 --> 00:31:44.945 between comparing task two and
NOTE Confidence: 0.971763

00:31:45.025 --> 00:31:46.625 one and two and also
NOTE Confidence: 0.971763

00:31:46.625 --> 00:31:47.125 three,
NOTE Confidence: 0.9848299

00:31:47.745 --> 00:31:48.885 but also quantitatively
NOTE Confidence: 0.9992672

00:31:49.665 --> 00:31:50.165 different.
NOTE Confidence: 0.9834208

00:31:52.840 --> 00:31:54.200 So here, we show the
NOTE Confidence: 0.9834208

00:31:54.200 --> 00:31:56.120 proportion of comments assigned to
NOTE Confidence: 0.9834208

00:31:56.120 --> 00:31:57.100 the five categories
NOTE Confidence: 0.9806251

00:31:58.040 --> 00:31:59.179 from top to bottom
NOTE Confidence: 0.8272705

00:31:59.559 --> 00:31:59.960 where,
NOTE Confidence: 0.99468315

00:32:00.440 --> 00:32:01.800 task two is shown task
NOTE Confidence: 0.99468315

00:32:01.800 --> 00:32:03.100 one is shown in blue,
NOTE Confidence: 0.99468315

00:32:03.160 --> 00:32:04.200 task two is shown in
NOTE Confidence: 0.99468315

00:32:04.200 --> 00:32:05.880 yellow, and task three is
NOTE Confidence: 0.99468315

00:32:05.880 --> 00:32:07.020 shown in pink.
NOTE Confidence: 0.9924804

00:32:08.335 --> 00:32:09.615 So you can see that
NOTE Confidence: 0.9924804

00:32:09.615 --> 00:32:11.455 problem framing and data related

NOTE Confidence: 0.9924804
00:32:11.455 --> 00:32:12.755 statements figured prominently,
NOTE Confidence: 0.9933113
00:32:13.695 --> 00:32:15.215 in tasks one and two,
NOTE Confidence: 0.9933113
00:32:15.215 --> 00:32:16.995 the blue and yellow, whereas
NOTE Confidence: 0.99664444
00:32:17.375 --> 00:32:19.135 stakeholders and social and ethical
NOTE Confidence: 0.99664444
00:32:19.135 --> 00:32:21.135 issues were predominant in task
NOTE Confidence: 0.99664444
00:32:21.135 --> 00:32:21.635 three.
NOTE Confidence: 0.99861664
00:32:24.950 --> 00:32:26.230 When we did the thematic
NOTE Confidence: 0.99861664
00:32:26.230 --> 00:32:28.409 analysis of, the transcripts,
NOTE Confidence: 0.98144203
00:32:29.029 --> 00:32:31.110 we saw similar differences in
NOTE Confidence: 0.98144203
00:32:31.110 --> 00:32:32.870 the themes that emerged during
NOTE Confidence: 0.98144203
00:32:32.870 --> 00:32:34.490 tasks one, two, and three,
NOTE Confidence: 0.9971573
00:32:35.110 --> 00:32:37.029 which roughly paralleled the written
NOTE Confidence: 0.9971573
00:32:37.029 --> 00:32:37.529 comments.
NOTE Confidence: 0.9508936
00:32:44.415 --> 00:32:46.335 More importantly, we observe shifts
NOTE Confidence: 0.9508936
00:32:46.335 --> 00:32:47.155 in the perspective
NOTE Confidence: 0.99962366

00:32:47.455 --> 00:32:48.355 across tasks.
NOTE Confidence: 0.99274004

00:32:48.815 --> 00:32:50.655 In task one, data concerns
NOTE Confidence: 0.99274004

00:32:50.655 --> 00:32:52.335 were expressed. And if patients
NOTE Confidence: 0.99274004

00:32:52.335 --> 00:32:53.740 were referred to, they were
NOTE Confidence: 0.99274004

00:32:53.740 --> 00:32:55.020 referred to as a source
NOTE Confidence: 0.99274004

00:32:55.020 --> 00:32:55.679 of data.
NOTE Confidence: 0.9845544

00:32:56.299 --> 00:32:57.820 In task two, the focus
NOTE Confidence: 0.9845544

00:32:57.820 --> 00:33:00.000 turned towards clinicians and users.
NOTE Confidence: 0.9986762

00:33:00.539 --> 00:33:02.080 And in task three, participants
NOTE Confidence: 0.45364606

00:33:02.779 --> 00:33:03.279 referenced
NOTE Confidence: 0.99985564

00:33:03.580 --> 00:33:04.080 themselves
NOTE Confidence: 0.9535453

00:33:05.179 --> 00:33:06.000 as patients.
NOTE Confidence: 0.9876938

00:33:07.565 --> 00:33:08.445 And I'll show you some
NOTE Confidence: 0.9876938

00:33:08.445 --> 00:33:09.585 examples of this.
NOTE Confidence: 0.99948597

00:33:10.685 --> 00:33:12.145 So from task one,
NOTE Confidence: 0.9881689

00:33:12.765 --> 00:33:14.205 this person says, so I

NOTE Confidence: 0.9881689
00:33:14.205 --> 00:33:14.705 guess
NOTE Confidence: 0.97547305
00:33:15.085 --> 00:33:16.045 if we do have data,
NOTE Confidence: 0.97547305
00:33:16.045 --> 00:33:17.245 then I guess probably most
NOTE Confidence: 0.97547305
00:33:17.245 --> 00:33:18.285 of us will wanna know
NOTE Confidence: 0.97547305
00:33:18.285 --> 00:33:19.700 what's in the data. How
NOTE Confidence: 0.97547305
00:33:19.700 --> 00:33:21.140 much how many patients or
NOTE Confidence: 0.97547305
00:33:21.140 --> 00:33:22.520 observations do we have?
NOTE Confidence: 0.9286176
00:33:23.300 --> 00:33:25.400 So, the second person says,
NOTE Confidence: 0.93660796
00:33:25.780 --> 00:33:26.840 and just a fundamental,
NOTE Confidence: 0.96080095
00:33:27.460 --> 00:33:28.900 question, I'm assuming that we're
NOTE Confidence: 0.96080095
00:33:28.900 --> 00:33:30.180 gonna be getting live subjects
NOTE Confidence: 0.96080095
00:33:30.180 --> 00:33:31.300 for this data, but there's
NOTE Confidence: 0.96080095
00:33:31.300 --> 00:33:33.295 very good public datasets that
NOTE Confidence: 0.96080095
00:33:33.295 --> 00:33:34.995 we could use. So here,
NOTE Confidence: 0.96080095
00:33:35.135 --> 00:33:36.915 the reference to patients is
NOTE Confidence: 0.96080095

00:33:37.135 --> 00:33:38.595 as a source of data.
NOTE Confidence: 0.9878117

00:33:42.335 --> 00:33:44.035 In task two, the developer's
NOTE Confidence: 0.9878117

00:33:44.255 --> 00:33:46.030 frame of reference expanded, which
NOTE Confidence: 0.9878117

00:33:46.030 --> 00:33:47.550 was reflected by the increased
NOTE Confidence: 0.9878117

00:33:47.550 --> 00:33:49.150 mention of other entities or
NOTE Confidence: 0.9878117

00:33:49.150 --> 00:33:49.650 groups.
NOTE Confidence: 0.9972648

00:33:50.190 --> 00:33:52.050 The number of developers referencing
NOTE Confidence: 0.9972648

00:33:52.110 --> 00:33:53.390 partners and colleagues in a
NOTE Confidence: 0.9972648

00:33:53.390 --> 00:33:55.170 collaborative capacity increased,
NOTE Confidence: 0.99890375

00:33:55.630 --> 00:33:57.550 including comments about shared decision
NOTE Confidence: 0.99890375

00:33:57.550 --> 00:33:58.915 making or the need to
NOTE Confidence: 0.99890375

00:33:58.915 --> 00:34:00.595 consult others for their domain
NOTE Confidence: 0.99890375

00:34:00.595 --> 00:34:01.095 expertise.
NOTE Confidence: 0.9696913

00:34:01.475 --> 00:34:02.595 So, for example, in the
NOTE Confidence: 0.9696913

00:34:02.595 --> 00:34:04.515 top quote, they talk about
NOTE Confidence: 0.9696913

00:34:04.515 --> 00:34:05.655 everybody, provider,

NOTE Confidence: 0.9558751

00:34:05.955 --> 00:34:07.875 engineers, IT across the board.

NOTE Confidence: 0.9558751

00:34:07.875 --> 00:34:08.995 So we get buy in

NOTE Confidence: 0.9558751

00:34:08.995 --> 00:34:09.655 from everyone.

NOTE Confidence: 0.97509784

00:34:11.020 --> 00:34:12.140 On the bottom, they talk

NOTE Confidence: 0.97509784

00:34:12.140 --> 00:34:13.340 about if it's something that

NOTE Confidence: 0.97509784

00:34:13.340 --> 00:34:14.860 you're showing to providers, they're

NOTE Confidence: 0.97509784

00:34:14.860 --> 00:34:15.740 gonna need to know what

NOTE Confidence: 0.97509784

00:34:15.740 --> 00:34:16.620 are they supposed to be

NOTE Confidence: 0.97509784

00:34:16.620 --> 00:34:17.980 doing with this information, and

NOTE Confidence: 0.97509784

00:34:17.980 --> 00:34:19.580 then they talk about needing

NOTE Confidence: 0.97509784

00:34:19.580 --> 00:34:21.580 a fairly robust education plan

NOTE Confidence: 0.97509784

00:34:21.580 --> 00:34:22.400 for the rollout.

NOTE Confidence: 0.9423095

00:34:27.285 --> 00:34:28.725 And in task three, the

NOTE Confidence: 0.9423095

00:34:28.725 --> 00:34:29.705 implied relationship

NOTE Confidence: 0.98131603

00:34:30.245 --> 00:34:31.945 with patients changed significantly.

NOTE Confidence: 0.98386145

00:34:32.805 --> 00:34:34.485 The majority of developers who
NOTE Confidence: 0.98386145

00:34:34.485 --> 00:34:35.925 made comments with respect to
NOTE Confidence: 0.98386145

00:34:35.925 --> 00:34:37.545 entities or groups affected
NOTE Confidence: 0.95855695

00:34:37.850 --> 00:34:39.050 did so about patients in
NOTE Confidence: 0.95855695

00:34:39.050 --> 00:34:41.370 a reflexive manner incorporating their
NOTE Confidence: 0.95855695

00:34:41.370 --> 00:34:42.270 own imagined
NOTE Confidence: 0.9973276

00:34:42.570 --> 00:34:45.130 patient experiences and priorities into
NOTE Confidence: 0.9973276

00:34:45.130 --> 00:34:45.630 discussions.
NOTE Confidence: 0.9788984

00:34:46.570 --> 00:34:48.670 So this, developer says,
NOTE Confidence: 0.98270607

00:34:48.969 --> 00:34:50.570 when I consider myself as
NOTE Confidence: 0.98270607

00:34:50.570 --> 00:34:52.270 a patient as end user,
NOTE Confidence: 0.9823965

00:34:52.914 --> 00:34:54.214 this can mean the accuracy
NOTE Confidence: 0.9823965

00:34:54.355 --> 00:34:55.654 is, like, the most concerning.
NOTE Confidence: 0.9586359

00:34:56.674 --> 00:34:57.974 The second person says,
NOTE Confidence: 0.99840707

00:34:58.275 --> 00:35:00.275 focus on minimizing patient privacy
NOTE Confidence: 0.99840707

00:35:00.275 --> 00:35:02.214 issues due to personal involvement

NOTE Confidence: 0.99840707

00:35:02.355 --> 00:35:03.174 in the system.

NOTE Confidence: 0.97833127

00:35:04.860 --> 00:35:05.900 So they are clearly thinking

NOTE Confidence: 0.97833127

00:35:05.900 --> 00:35:07.420 of Aviles right now in

NOTE Confidence: 0.97833127

00:35:07.420 --> 00:35:08.460 the role of the patient

NOTE Confidence: 0.97833127

00:35:08.460 --> 00:35:09.580 as well as the role

NOTE Confidence: 0.97833127

00:35:09.580 --> 00:35:10.940 of the developer at the

NOTE Confidence: 0.97833127

00:35:10.940 --> 00:35:11.600 same time.

NOTE Confidence: 0.9930401

00:35:12.220 --> 00:35:13.100 So I'll give you some

NOTE Confidence: 0.9930401

00:35:13.100 --> 00:35:13.420 more,

NOTE Confidence: 0.9627312

00:35:14.140 --> 00:35:15.200 examples of this.

NOTE Confidence: 0.99783325

00:35:16.220 --> 00:35:17.660 And I think they show

NOTE Confidence: 0.99783325

00:35:17.660 --> 00:35:18.160 that

NOTE Confidence: 0.9960167

00:35:19.694 --> 00:35:21.694 the, statements demonstrated awareness of

NOTE Confidence: 0.9960167

00:35:21.694 --> 00:35:22.755 perspective taking

NOTE Confidence: 0.9356481

00:35:23.134 --> 00:35:24.434 and that even sometimes,

NOTE Confidence: 0.99958956

00:35:25.134 --> 00:35:25.875 they articulated
NOTE Confidence: 0.95535105

00:35:26.255 --> 00:35:28.414 taking on this imagined self
NOTE Confidence: 0.95535105

00:35:28.414 --> 00:35:30.094 or sometimes an imagined other
NOTE Confidence: 0.95535105

00:35:30.094 --> 00:35:30.594 framework.
NOTE Confidence: 0.9949611

00:35:31.100 --> 00:35:32.460 So on top, the person
NOTE Confidence: 0.9949611

00:35:32.460 --> 00:35:33.980 says, we were putting on
NOTE Confidence: 0.9949611

00:35:33.980 --> 00:35:36.140 different stakeholder hats. So they're
NOTE Confidence: 0.9949611

00:35:36.140 --> 00:35:37.820 really reflecting on this activity
NOTE Confidence: 0.9949611

00:35:37.820 --> 00:35:39.820 and identifying that they are
NOTE Confidence: 0.9949611

00:35:39.820 --> 00:35:40.960 taking other perspectives.
NOTE Confidence: 0.98358124

00:35:43.434 --> 00:35:45.375 Another person actually says
NOTE Confidence: 0.9659991

00:35:45.755 --> 00:35:47.275 that I I tend to
NOTE Confidence: 0.9659991

00:35:47.275 --> 00:35:48.315 forget about it because I
NOTE Confidence: 0.9659991

00:35:48.315 --> 00:35:49.355 start looking at the data.
NOTE Confidence: 0.9659991

00:35:49.355 --> 00:35:50.555 And at some point after
NOTE Confidence: 0.9659991

00:35:50.555 --> 00:35:51.515 a couple months working on

NOTE Confidence: 0.9659991

00:35:51.515 --> 00:35:52.795 a problem, I kinda forget

NOTE Confidence: 0.9659991

00:35:52.795 --> 00:35:54.255 about some human aspects

NOTE Confidence: 0.99716824

00:35:54.555 --> 00:35:55.594 of it. So they also

NOTE Confidence: 0.99716824

00:35:55.594 --> 00:35:56.795 are reflective of how they

NOTE Confidence: 0.99716824

00:35:56.795 --> 00:35:57.914 sort of lose touch with

NOTE Confidence: 0.99716824

00:35:57.914 --> 00:35:58.575 the patient's

NOTE Confidence: 0.9926063

00:35:59.020 --> 00:35:59.520 perspective.

NOTE Confidence: 0.9638784

00:36:00.140 --> 00:36:01.660 And another person says simply,

NOTE Confidence: 0.9638784

00:36:01.660 --> 00:36:02.620 we changed our point of

NOTE Confidence: 0.9638784

00:36:02.620 --> 00:36:03.120 view.

NOTE Confidence: 0.84660035

00:36:05.020 --> 00:36:06.220 The imagined self,

NOTE Confidence: 0.9964642

00:36:06.620 --> 00:36:07.600 comes out sometimes.

NOTE Confidence: 0.9784657

00:36:07.980 --> 00:36:09.500 Somebody says, I really tried

NOTE Confidence: 0.9784657

00:36:09.500 --> 00:36:10.540 to think what would it

NOTE Confidence: 0.9784657

00:36:10.540 --> 00:36:11.739 feel like for a patient

NOTE Confidence: 0.9784657

00:36:11.739 --> 00:36:13.020 to go through whatever we
NOTE Confidence: 0.9784657

00:36:13.020 --> 00:36:13.520 design.
NOTE Confidence: 0.95135504

00:36:14.235 --> 00:36:15.995 And another person says, t
NOTE Confidence: 0.95135504

00:36:15.995 --> 00:36:17.515 three really encouraged me to
NOTE Confidence: 0.95135504

00:36:17.515 --> 00:36:19.535 put myself in patient's shoes.
NOTE Confidence: 0.98506916

00:36:22.235 --> 00:36:23.915 Couple more examples of this.
NOTE Confidence: 0.97989064

00:36:24.235 --> 00:36:25.675 One person says, in task
NOTE Confidence: 0.97989064

00:36:25.675 --> 00:36:26.795 one and two, I felt
NOTE Confidence: 0.97989064

00:36:26.795 --> 00:36:27.755 more excited to be on
NOTE Confidence: 0.97989064

00:36:27.755 --> 00:36:29.850 the side of collecting data,
NOTE Confidence: 0.9890677

00:36:30.170 --> 00:36:31.050 being on the side of
NOTE Confidence: 0.9890677

00:36:31.050 --> 00:36:32.010 the data. So that was
NOTE Confidence: 0.9890677

00:36:32.010 --> 00:36:33.070 the difference I felt.
NOTE Confidence: 0.99741423

00:36:33.370 --> 00:36:34.590 But at the same time,
NOTE Confidence: 0.9967386

00:36:34.890 --> 00:36:36.090 this person goes on to
NOTE Confidence: 0.9967386

00:36:36.090 --> 00:36:37.450 say, I felt like task

NOTE Confidence: 0.9967386

00:36:37.450 --> 00:36:38.410 three was a good way

NOTE Confidence: 0.9967386

00:36:38.410 --> 00:36:39.690 to put myself on the

NOTE Confidence: 0.9967386

00:36:39.690 --> 00:36:40.590 other side

NOTE Confidence: 0.9974846

00:36:41.130 --> 00:36:42.250 and reflect on what the

NOTE Confidence: 0.9974846

00:36:42.250 --> 00:36:43.530 general public wants to hear

NOTE Confidence: 0.9974846

00:36:43.530 --> 00:36:44.650 from people who are doing

NOTE Confidence: 0.9974846

00:36:44.650 --> 00:36:45.630 this kind of work.

NOTE Confidence: 0.98979735

00:36:50.385 --> 00:36:51.425 And we also heard some

NOTE Confidence: 0.98979735

00:36:51.425 --> 00:36:53.425 statements that hinted towards movement,

NOTE Confidence: 0.98979735

00:36:53.425 --> 00:36:54.724 towards moral action.

NOTE Confidence: 0.9693079

00:36:55.744 --> 00:36:57.265 The first person says, we

NOTE Confidence: 0.9693079

00:36:57.265 --> 00:36:58.464 got really focused on the

NOTE Confidence: 0.9693079

00:36:58.464 --> 00:37:00.545 data more and forgot about

NOTE Confidence: 0.9693079

00:37:00.545 --> 00:37:01.940 exactly what the big picture

NOTE Confidence: 0.9693079

00:37:01.940 --> 00:37:03.059 was really. And I think

NOTE Confidence: 0.9693079

00:37:03.059 --> 00:37:03.559 that's,
NOTE Confidence: 0.999722

00:37:04.339 --> 00:37:05.700 something I need to change
NOTE Confidence: 0.999722

00:37:05.700 --> 00:37:06.680 in my work.
NOTE Confidence: 0.99476737

00:37:07.299 --> 00:37:09.140 Second person says, I haven't
NOTE Confidence: 0.99476737

00:37:09.140 --> 00:37:10.579 really been doing a lot
NOTE Confidence: 0.99476737

00:37:10.579 --> 00:37:11.400 with people,
NOTE Confidence: 0.90489066

00:37:11.700 --> 00:37:13.559 with different backgrounds like business,
NOTE Confidence: 0.98567367

00:37:14.675 --> 00:37:15.635 and let's sit in the
NOTE Confidence: 0.98567367

00:37:15.635 --> 00:37:17.235 same room doing practices and
NOTE Confidence: 0.98567367

00:37:17.235 --> 00:37:18.675 exercises like this. I think
NOTE Confidence: 0.98567367

00:37:18.675 --> 00:37:19.795 this is actually a very
NOTE Confidence: 0.98567367

00:37:19.795 --> 00:37:20.535 good exercise.
NOTE Confidence: 0.9941299

00:37:20.915 --> 00:37:21.955 And so that we can
NOTE Confidence: 0.9941299

00:37:21.955 --> 00:37:22.915 be more on the same
NOTE Confidence: 0.9941299

00:37:22.915 --> 00:37:24.355 page, I need to borrow
NOTE Confidence: 0.9941299

00:37:24.355 --> 00:37:25.415 some of that later.

NOTE Confidence: 0.98976684
00:37:29.270 --> 00:37:29.750 So,
NOTE Confidence: 0.99946505
00:37:30.070 --> 00:37:31.510 we were encouraged by these
NOTE Confidence: 0.99946505
00:37:31.510 --> 00:37:33.270 findings. This is one ninety
NOTE Confidence: 0.99946505
00:37:33.270 --> 00:37:34.489 minute session online.
NOTE Confidence: 0.9994251
00:37:35.270 --> 00:37:36.170 It was not
NOTE Confidence: 0.93685037
00:37:36.710 --> 00:37:38.489 super intensive or high touch.
NOTE Confidence: 0.9958621
00:37:38.950 --> 00:37:39.989 People could do it from
NOTE Confidence: 0.9958621
00:37:39.989 --> 00:37:40.969 all over the country,
NOTE Confidence: 0.9966624
00:37:41.350 --> 00:37:42.469 at all hours of the
NOTE Confidence: 0.9966624
00:37:42.469 --> 00:37:42.969 day.
NOTE Confidence: 0.93018866
00:37:43.315 --> 00:37:44.295 And these hypothetical
NOTE Confidence: 0.9779851
00:37:44.594 --> 00:37:45.094 scenarios,
NOTE Confidence: 0.9566487
00:37:45.635 --> 00:37:47.094 it seemed, can be effective
NOTE Confidence: 0.9566487
00:37:47.235 --> 00:37:49.235 at encouraging AI developers to
NOTE Confidence: 0.9566487
00:37:49.235 --> 00:37:50.775 take alternatives perspectives.
NOTE Confidence: 0.99482036

00:37:51.475 --> 00:37:52.835 And this can occur, as
NOTE Confidence: 0.99482036

00:37:52.835 --> 00:37:53.795 I said, in a very
NOTE Confidence: 0.99482036

00:37:53.795 --> 00:37:55.635 short relatively short period of
NOTE Confidence: 0.99482036

00:37:55.635 --> 00:37:57.020 time and potentially
NOTE Confidence: 0.9966131

00:37:57.320 --> 00:37:59.400 have practical implications. We saw
NOTE Confidence: 0.9966131

00:37:59.400 --> 00:38:00.920 some hints of actually being
NOTE Confidence: 0.9966131

00:38:00.920 --> 00:38:01.420 willing
NOTE Confidence: 0.99031997

00:38:01.719 --> 00:38:02.600 to take some of these
NOTE Confidence: 0.99031997

00:38:02.600 --> 00:38:04.200 ideas and actually implement them
NOTE Confidence: 0.99031997

00:38:04.200 --> 00:38:05.640 in their work. But we
NOTE Confidence: 0.99031997

00:38:05.640 --> 00:38:06.920 don't know whether this would
NOTE Confidence: 0.99031997

00:38:06.920 --> 00:38:08.620 actually or has changed anybody's
NOTE Confidence: 0.99031997

00:38:08.840 --> 00:38:09.340 behavior,
NOTE Confidence: 0.9896973

00:38:09.640 --> 00:38:10.600 which is what we will
NOTE Confidence: 0.9896973

00:38:10.600 --> 00:38:11.320 try to do in the
NOTE Confidence: 0.9896973

00:38:11.320 --> 00:38:11.820 future,

NOTE Confidence: 0.9653317

00:38:12.785 --> 00:38:14.225 or whether this works in

NOTE Confidence: 0.9653317

00:38:14.225 --> 00:38:16.225 actual teams that these were

NOTE Confidence: 0.9653317

00:38:16.225 --> 00:38:17.345 people who had never worked

NOTE Confidence: 0.9653317

00:38:17.345 --> 00:38:18.785 together before. They were just

NOTE Confidence: 0.9653317

00:38:18.785 --> 00:38:19.985 four random people that we

NOTE Confidence: 0.9653317

00:38:19.985 --> 00:38:20.725 put together,

NOTE Confidence: 0.99863446

00:38:21.185 --> 00:38:22.545 and they didn't know each

NOTE Confidence: 0.99863446

00:38:22.545 --> 00:38:23.605 other before that.

NOTE Confidence: 0.9981226

00:38:24.320 --> 00:38:25.700 And we don't know whether,

NOTE Confidence: 0.9139086

00:38:26.320 --> 00:38:27.280 this will work in a

NOTE Confidence: 0.9139086

00:38:27.280 --> 00:38:29.360 real world setting either whether

NOTE Confidence: 0.9139086

00:38:29.360 --> 00:38:30.660 it be in corporate

NOTE Confidence: 0.87987345

00:38:31.119 --> 00:38:33.700 and academic or educational settings,

NOTE Confidence: 0.9973938

00:38:34.080 --> 00:38:35.780 but we do wanna try.

NOTE Confidence: 0.99959385

00:38:37.675 --> 00:38:38.954 Okay. So here's where I

NOTE Confidence: 0.99959385

00:38:38.954 --> 00:38:39.855 make my pivot
NOTE Confidence: 0.8886868

00:38:42.395 --> 00:38:43.935 to this other question.
NOTE Confidence: 0.9519557

00:38:46.474 --> 00:38:48.075 So our findings of moral
NOTE Confidence: 0.9519557

00:38:48.075 --> 00:38:50.395 disengagement and perspective taking have
NOTE Confidence: 0.9519557

00:38:50.395 --> 00:38:51.835 led me to think about
NOTE Confidence: 0.9519557

00:38:51.835 --> 00:38:53.969 whether bioethicists such as us,
NOTE Confidence: 0.9519557

00:38:53.969 --> 00:38:54.469 clinicians,
NOTE Confidence: 0.99680007

00:38:55.410 --> 00:38:56.950 and other users of biomedical
NOTE Confidence: 0.99680007

00:38:57.170 --> 00:38:58.790 AI also need to enhance
NOTE Confidence: 0.99680007

00:38:58.850 --> 00:39:00.070 our own moral engagement
NOTE Confidence: 0.88331574

00:39:00.370 --> 00:39:01.730 with these issues. And if
NOTE Confidence: 0.88331574

00:39:01.730 --> 00:39:02.230 so,
NOTE Confidence: 0.9825397

00:39:02.530 --> 00:39:03.030 how?
NOTE Confidence: 0.9937762

00:39:08.375 --> 00:39:09.895 So some others have,
NOTE Confidence: 0.9987824

00:39:10.295 --> 00:39:11.915 mounted critiques of bioethics
NOTE Confidence: 0.96231127

00:39:12.215 --> 00:39:13.275 and the bioethics,

NOTE Confidence: 0.93693554
00:39:13.895 --> 00:39:15.355 analysis of new technologies,
NOTE Confidence: 0.9952196
00:39:15.975 --> 00:39:16.635 in particular,
NOTE Confidence: 0.99842685
00:39:17.735 --> 00:39:19.015 noting the capture by the
NOTE Confidence: 0.99842685
00:39:19.015 --> 00:39:20.555 medical and research establishments
NOTE Confidence: 0.9998331
00:39:21.120 --> 00:39:22.020 and the subsequent reluctance
NOTE Confidence: 0.998761
00:39:22.720 --> 00:39:24.420 to challenge the status quo.
NOTE Confidence: 0.9130144
00:39:25.440 --> 00:39:26.560 Jay Shaw at the University
NOTE Confidence: 0.9130144
00:39:26.560 --> 00:39:27.780 of Toronto argues
NOTE Confidence: 0.9994336
00:39:28.640 --> 00:39:30.100 that bioethics practitioners
NOTE Confidence: 0.9960116
00:39:30.400 --> 00:39:32.020 tend to accept the boundaries
NOTE Confidence: 0.9960116
00:39:32.080 --> 00:39:34.000 placed around ethical discourse by
NOTE Confidence: 0.9960116
00:39:34.000 --> 00:39:35.175 proponents of a
NOTE Confidence: 0.85975945
00:39:35.575 --> 00:39:36.475 given technology.
NOTE Confidence: 0.9989583
00:39:37.094 --> 00:39:37.975 And then he goes on
NOTE Confidence: 0.9989583
00:39:37.975 --> 00:39:39.835 to outline the various considerations
NOTE Confidence: 0.980849

00:39:40.614 --> 00:39:42.635 that demand attention for comprehensive

NOTE Confidence: 0.980849

00:39:42.775 --> 00:39:44.855 and ethical analysis of digital

NOTE Confidence: 0.980849

00:39:44.855 --> 00:39:46.614 health technologies in this broad

NOTE Confidence: 0.980849

00:39:46.614 --> 00:39:47.114 perspective.

NOTE Confidence: 0.8778448

00:39:47.735 --> 00:39:48.475 And especially,

NOTE Confidence: 0.9996004

00:39:49.880 --> 00:39:51.480 saying that the importance of

NOTE Confidence: 0.9996004

00:39:51.480 --> 00:39:53.500 social justice for ethical analysis

NOTE Confidence: 0.82018214

00:39:53.880 --> 00:39:55.640 from a social perspective social

NOTE Confidence: 0.82018214

00:39:55.640 --> 00:39:56.700 technical perspective,

NOTE Confidence: 0.9984549

00:39:57.400 --> 00:39:58.140 is critical.

NOTE Confidence: 0.91014856

00:39:59.160 --> 00:39:59.660 I,

NOTE Confidence: 0.99767447

00:40:00.520 --> 00:40:01.880 believe that these arguments are

NOTE Confidence: 0.99767447

00:40:01.880 --> 00:40:02.380 valid.

NOTE Confidence: 0.99887794

00:40:02.855 --> 00:40:03.755 As a sociologist

NOTE Confidence: 0.95503193

00:40:04.055 --> 00:40:05.815 of science, Jay Shaw is

NOTE Confidence: 0.95503193

00:40:05.815 --> 00:40:07.815 advocating for a sociological approach

NOTE Confidence: 0.95503193

00:40:07.815 --> 00:40:08.474 to bioethics.

NOTE Confidence: 0.9918308

00:40:09.255 --> 00:40:10.454 But I wonder, does this

NOTE Confidence: 0.9918308

00:40:10.454 --> 00:40:12.315 also suggest moral engagement

NOTE Confidence: 0.9970219

00:40:12.614 --> 00:40:13.994 through perspective taking?

NOTE Confidence: 0.98572683

00:40:18.200 --> 00:40:19.480 So, for example, if we

NOTE Confidence: 0.98572683

00:40:19.480 --> 00:40:21.000 are to reject the boundaries

NOTE Confidence: 0.98572683

00:40:21.000 --> 00:40:22.920 of inquiry placed by proponents

NOTE Confidence: 0.98572683

00:40:22.920 --> 00:40:23.580 of AI,

NOTE Confidence: 0.9995201

00:40:24.200 --> 00:40:25.020 should we consider

NOTE Confidence: 0.960538

00:40:25.400 --> 00:40:27.080 other issues such as the

NOTE Confidence: 0.960538

00:40:27.080 --> 00:40:29.000 massive amounts of energy required

NOTE Confidence: 0.960538

00:40:29.000 --> 00:40:30.140 to power AI?

NOTE Confidence: 0.95376325

00:40:30.725 --> 00:40:32.025 And this estimate here,

NOTE Confidence: 0.93803626

00:40:32.965 --> 00:40:34.405 says that data centers in

NOTE Confidence: 0.93803626

00:40:34.405 --> 00:40:35.145 the US,

NOTE Confidence: 0.9914894

00:40:36.405 --> 00:40:38.085 use somewhere around two hundred

NOTE Confidence: 0.9914894

00:40:38.085 --> 00:40:40.085 terawatt hours of electricity in

NOTE Confidence: 0.9914894

00:40:40.085 --> 00:40:41.305 twenty twenty four,

NOTE Confidence: 0.9995068

00:40:41.765 --> 00:40:42.965 which is roughly what it

NOTE Confidence: 0.9995068

00:40:42.965 --> 00:40:44.645 takes to power Thailand for

NOTE Confidence: 0.9995068

00:40:44.645 --> 00:40:45.225 a year.

NOTE Confidence: 0.9931645

00:40:47.099 --> 00:40:48.539 The electricity for these,

NOTE Confidence: 0.9941432

00:40:49.019 --> 00:40:51.019 data centers largely comes from

NOTE Confidence: 0.9941432

00:40:51.019 --> 00:40:53.279 fossil fuels because renewable energy

NOTE Confidence: 0.9941432

00:40:53.500 --> 00:40:55.420 is less reliable and not

NOTE Confidence: 0.9941432

00:40:55.420 --> 00:40:56.480 consistent enough

NOTE Confidence: 0.9227538

00:40:56.859 --> 00:40:58.000 to keep data,

NOTE Confidence: 0.8968238

00:40:58.539 --> 00:40:59.200 the amount,

NOTE Confidence: 0.9669712

00:40:59.855 --> 00:41:01.614 the minimum amount of energy

NOTE Confidence: 0.9669712

00:41:01.614 --> 00:41:02.114 required

NOTE Confidence: 0.99677277

00:41:02.575 --> 00:41:04.035 by data centers going.

NOTE Confidence: 0.9997661

00:41:05.055 --> 00:41:06.654 Millions of gallons of water

NOTE Confidence: 0.9997661

00:41:06.654 --> 00:41:07.934 are also used by data

NOTE Confidence: 0.9997661

00:41:07.934 --> 00:41:09.154 centers each day

NOTE Confidence: 0.95175374

00:41:10.015 --> 00:41:12.114 enough to deplete entire communities

NOTE Confidence: 0.95175374

00:41:12.255 --> 00:41:13.410 of their drinking water.

NOTE Confidence: 0.96928036

00:41:13.890 --> 00:41:15.089 So this is likely to

NOTE Confidence: 0.96928036

00:41:15.089 --> 00:41:16.630 have measurable, if unpredictable,

NOTE Confidence: 0.9792557

00:41:17.250 --> 00:41:18.690 health effects. So if we're

NOTE Confidence: 0.9792557

00:41:18.690 --> 00:41:20.210 thinking about the effects and

NOTE Confidence: 0.9792557

00:41:20.210 --> 00:41:21.730 the ethical issues raised by

NOTE Confidence: 0.9792557

00:41:21.730 --> 00:41:22.789 AI on health,

NOTE Confidence: 0.9553539

00:41:23.089 --> 00:41:24.530 we might wanna think broader

NOTE Confidence: 0.9553539

00:41:24.530 --> 00:41:25.030 than,

NOTE Confidence: 0.9457304

00:41:25.890 --> 00:41:27.430 bias and, privacy

NOTE Confidence: 0.9957908

00:41:27.945 --> 00:41:29.945 and fairness within the AI

NOTE Confidence: 0.9957908

00:41:29.945 --> 00:41:30.445 itself.
NOTE Confidence: 0.9742586

00:41:36.665 --> 00:41:38.585 So several years ago, Timnit
NOTE Confidence: 0.9742586

00:41:38.585 --> 00:41:40.745 Gebru identified bias in large
NOTE Confidence: 0.9742586

00:41:40.745 --> 00:41:42.605 language models that we now
NOTE Confidence: 0.9600136

00:41:43.100 --> 00:41:44.219 sort of just take for
NOTE Confidence: 0.9600136

00:41:44.219 --> 00:41:44.719 granted,
NOTE Confidence: 0.9849405

00:41:45.420 --> 00:41:46.540 but she got fired by
NOTE Confidence: 0.9849405

00:41:46.540 --> 00:41:48.300 her employer, Google, for her
NOTE Confidence: 0.9849405

00:41:48.300 --> 00:41:48.800 efforts.
NOTE Confidence: 0.99842525

00:41:49.660 --> 00:41:50.780 She then called out the
NOTE Confidence: 0.99842525

00:41:50.780 --> 00:41:51.280 colonization
NOTE Confidence: 0.9986714

00:41:52.219 --> 00:41:54.080 of poor and powerless nations
NOTE Confidence: 0.9986714

00:41:54.140 --> 00:41:55.600 by large AI companies
NOTE Confidence: 0.9934998

00:41:56.055 --> 00:41:57.815 and the exploitation of people
NOTE Confidence: 0.9934998

00:41:57.815 --> 00:41:59.335 who work for extremely low
NOTE Confidence: 0.9934998

00:41:59.335 --> 00:42:01.415 wages to label data that

NOTE Confidence: 0.9934998
00:42:01.415 --> 00:42:02.855 goes into the training models
NOTE Confidence: 0.9934998
00:42:02.855 --> 00:42:04.075 that we all use.
NOTE Confidence: 0.9592446
00:42:05.255 --> 00:42:06.855 And also the extraction of
NOTE Confidence: 0.9592446
00:42:06.855 --> 00:42:08.454 resources that do not belong
NOTE Confidence: 0.9592446
00:42:08.454 --> 00:42:09.355 to these companies,
NOTE Confidence: 0.9980802
00:42:09.655 --> 00:42:10.795 including data,
NOTE Confidence: 0.9525386
00:42:11.340 --> 00:42:13.180 intellectual property, as well as
NOTE Confidence: 0.9525386
00:42:13.180 --> 00:42:14.540 water and minerals such as
NOTE Confidence: 0.9525386
00:42:14.540 --> 00:42:15.600 copper and lithium.
NOTE Confidence: 0.94005936
00:42:16.700 --> 00:42:18.460 More recently, the author Karen
NOTE Confidence: 0.94005936
00:42:18.460 --> 00:42:19.900 Howe has also called out
NOTE Confidence: 0.94005936
00:42:19.900 --> 00:42:20.640 AI companies
NOTE Confidence: 0.96518284
00:42:20.940 --> 00:42:22.380 for this resource and power
NOTE Confidence: 0.96518284
00:42:22.380 --> 00:42:23.739 grab in her book called
NOTE Confidence: 0.96518284
00:42:23.739 --> 00:42:25.120 The Empire of AI.
NOTE Confidence: 0.99713767

00:42:26.175 --> 00:42:27.215 I suggest that we should
NOTE Confidence: 0.99713767

00:42:27.215 --> 00:42:28.975 not disengage from the broader
NOTE Confidence: 0.99713767

00:42:28.975 --> 00:42:30.995 moral questions raised by AI
NOTE Confidence: 0.99713767

00:42:31.135 --> 00:42:32.575 and not be confined to
NOTE Confidence: 0.99713767

00:42:32.575 --> 00:42:33.715 boundaries defined
NOTE Confidence: 0.99974614

00:42:34.015 --> 00:42:35.315 by technical considerations.
NOTE Confidence: 0.9866754

00:42:41.230 --> 00:42:42.430 There was a recent reprint
NOTE Confidence: 0.9866754

00:42:42.430 --> 00:42:43.390 that I just saw in
NOTE Confidence: 0.9866754

00:42:43.390 --> 00:42:45.329 my LinkedIn feed, yesterday.
NOTE Confidence: 0.9786072

00:42:45.950 --> 00:42:47.410 And it describes a comprehensive
NOTE Confidence: 0.9786072

00:42:47.630 --> 00:42:48.130 evaluation
NOTE Confidence: 0.9843795

00:42:48.750 --> 00:42:50.864 of the diagnostic and management
NOTE Confidence: 0.9843795

00:42:50.925 --> 00:42:51.985 reasoning capabilities
NOTE Confidence: 0.9001717

00:42:52.445 --> 00:42:54.364 of an advanced LLM with
NOTE Confidence: 0.9001717

00:42:54.364 --> 00:42:55.185 an OpenAI,
NOTE Confidence: 0.99883395

00:42:56.125 --> 00:42:56.625 product

NOTE Confidence: 0.98066384
00:42:57.165 --> 00:42:58.844 against a baseline of hundreds
NOTE Confidence: 0.98066384
00:42:58.844 --> 00:42:59.505 of physicians.
NOTE Confidence: 0.97993225
00:43:00.525 --> 00:43:02.045 I think they used the
NOTE Confidence: 0.97993225
00:43:02.045 --> 00:43:03.880 clinical reasoning cases that were
NOTE Confidence: 0.97993225
00:43:03.880 --> 00:43:05.080 developed, I as I hear,
NOTE Confidence: 0.97993225
00:43:05.080 --> 00:43:06.140 by doctor Duffy.
NOTE Confidence: 0.9888727
00:43:07.480 --> 00:43:09.580 They further studied the LLM's
NOTE Confidence: 0.9888727
00:43:09.800 --> 00:43:11.640 second opinions in a blinded
NOTE Confidence: 0.9888727
00:43:11.640 --> 00:43:13.900 fashion against expert physician baselines
NOTE Confidence: 0.9962969
00:43:14.440 --> 00:43:16.665 on randomly selected patients in
NOTE Confidence: 0.9962969
00:43:16.665 --> 00:43:18.505 a major academic tertiary care
NOTE Confidence: 0.9962969
00:43:18.505 --> 00:43:20.844 emergency department in, Boston.
NOTE Confidence: 0.9827828
00:43:21.945 --> 00:43:23.385 So the author suggests, as
NOTE Confidence: 0.9827828
00:43:23.385 --> 00:43:24.265 you can see in the
NOTE Confidence: 0.9827828
00:43:24.265 --> 00:43:24.765 title
NOTE Confidence: 0.9498637

00:43:25.385 --> 00:43:26.844 of their, preprint,
NOTE Confidence: 0.9979671

00:43:27.625 --> 00:43:29.805 that LLMs have achieved superhuman
NOTE Confidence: 0.99916327

00:43:30.390 --> 00:43:32.730 performance on general medical diagnostic
NOTE Confidence: 0.99916327

00:43:33.029 --> 00:43:34.329 and management reasoning.
NOTE Confidence: 0.99969053

00:43:35.510 --> 00:43:37.349 However, I suggest that reasoning
NOTE Confidence: 0.99969053

00:43:37.349 --> 00:43:38.969 alone is not a sufficient
NOTE Confidence: 0.99969053

00:43:39.029 --> 00:43:41.190 benchmark for evaluating patient care
NOTE Confidence: 0.99969053

00:43:41.190 --> 00:43:42.614 and the quality of it.
NOTE Confidence: 0.99952626

00:43:43.175 --> 00:43:44.695 I also suggest that these
NOTE Confidence: 0.99952626

00:43:44.695 --> 00:43:45.594 types of studies
NOTE Confidence: 0.9798999

00:43:45.895 --> 00:43:47.835 treat patients as data sources,
NOTE Confidence: 0.9798999

00:43:48.055 --> 00:43:49.575 as we saw in our
NOTE Confidence: 0.9798999

00:43:49.575 --> 00:43:51.415 in our study, and measure
NOTE Confidence: 0.9798999

00:43:51.415 --> 00:43:53.655 physician skills solely as data
NOTE Confidence: 0.9798999

00:43:53.655 --> 00:43:54.155 processors.
NOTE Confidence: 0.9998362

00:43:58.910 --> 00:43:59.869 So I submit that we

NOTE Confidence: 0.9998362
00:43:59.869 --> 00:44:01.309 should be less worried about
NOTE Confidence: 0.9998362
00:44:01.309 --> 00:44:03.329 whether AI will replace physicians
NOTE Confidence: 0.99741626
00:44:03.790 --> 00:44:05.489 and more concerned about
NOTE Confidence: 0.9997625
00:44:06.030 --> 00:44:07.710 whether patients will be replaced
NOTE Confidence: 0.9997625
00:44:07.710 --> 00:44:08.369 by data.
NOTE Confidence: 0.97167474
00:44:08.994 --> 00:44:10.435 This means looking at AI
NOTE Confidence: 0.97167474
00:44:10.435 --> 00:44:11.815 not only as a technology,
NOTE Confidence: 0.9976729
00:44:12.675 --> 00:44:13.635 but as part of the
NOTE Confidence: 0.9976729
00:44:13.635 --> 00:44:15.015 entire patient environment
NOTE Confidence: 0.9395631
00:44:15.315 --> 00:44:16.755 as a social determinant of
NOTE Confidence: 0.9395631
00:44:16.755 --> 00:44:17.255 health.
NOTE Confidence: 0.9784097
00:44:18.275 --> 00:44:19.714 And this was recently proposed
NOTE Confidence: 0.9784097
00:44:19.714 --> 00:44:20.994 by a postdoctoral fellow who
NOTE Confidence: 0.9784097
00:44:20.994 --> 00:44:22.355 works with me at Stanford,
NOTE Confidence: 0.9784097
00:44:22.355 --> 00:44:23.255 Nicole Foti.
NOTE Confidence: 0.8783042

00:44:24.309 --> 00:44:24.809 And,
NOTE Confidence: 0.9731909

00:44:25.270 --> 00:44:27.030 based on proposals that,
NOTE Confidence: 0.8027381

00:44:27.910 --> 00:44:28.410 modify,
NOTE Confidence: 0.9843257

00:44:28.950 --> 00:44:31.030 the familiar social determinants of
NOTE Confidence: 0.9843257

00:44:31.030 --> 00:44:32.950 health model, which was developed
NOTE Confidence: 0.9843257

00:44:32.950 --> 00:44:34.329 to address health disparities.
NOTE Confidence: 0.9997327

00:44:34.790 --> 00:44:35.690 And these modifications
NOTE Confidence: 0.9990576

00:44:36.230 --> 00:44:38.650 integrate digital determinants of health.
NOTE Confidence: 0.97233474

00:44:39.494 --> 00:44:41.494 These determinants include bias in
NOTE Confidence: 0.97233474

00:44:41.494 --> 00:44:42.775 data and algorithms that we
NOTE Confidence: 0.97233474

00:44:42.775 --> 00:44:44.454 are all familiar with, but
NOTE Confidence: 0.97233474

00:44:44.454 --> 00:44:46.714 also differential access to services
NOTE Confidence: 0.9810034

00:44:47.174 --> 00:44:48.795 and bandwidth on the Internet
NOTE Confidence: 0.9810034

00:44:48.934 --> 00:44:50.375 as well as uneven data
NOTE Confidence: 0.9810034

00:44:50.375 --> 00:44:52.315 protection and AI laws.
NOTE Confidence: 0.9996564

00:44:53.450 --> 00:44:54.969 Therefore, I will end here

NOTE Confidence: 0.9996564
00:44:54.969 --> 00:44:56.269 by urging us to consider
NOTE Confidence: 0.99956596
00:44:56.569 --> 00:44:58.269 whether we are morally disengaging
NOTE Confidence: 0.99956596
00:44:58.410 --> 00:44:59.789 from important ethical
NOTE Confidence: 0.97159046
00:45:00.410 --> 00:45:02.329 questions raised by AI in
NOTE Confidence: 0.97159046
00:45:02.329 --> 00:45:04.329 the medical context, and if
NOTE Confidence: 0.97159046
00:45:04.329 --> 00:45:04.829 so,
NOTE Confidence: 0.99547374
00:45:05.495 --> 00:45:06.155 to reengage
NOTE Confidence: 0.99194664
00:45:06.455 --> 00:45:07.675 as part of our professional
NOTE Confidence: 0.99194664
00:45:07.735 --> 00:45:08.235 duties.
NOTE Confidence: 0.99834675
00:45:08.775 --> 00:45:09.975 And in doing so, I
NOTE Confidence: 0.99834675
00:45:09.975 --> 00:45:11.255 hope that doctor Duffy would
NOTE Confidence: 0.99834675
00:45:11.255 --> 00:45:12.935 have agreed with me. Thank
NOTE Confidence: 0.99834675
00:45:12.935 --> 00:45:13.755 you for listening.
NOTE Confidence: 0.78899187
00:45:24.450 --> 00:45:25.969 I think we can sit
NOTE Confidence: 0.78899187
00:45:25.969 --> 00:45:26.710 here together.
NOTE Confidence: 0.9223442

00:45:42.965 --> 00:45:44.244 Thank you so much, doctor
NOTE Confidence: 0.9223442

00:45:44.244 --> 00:45:44.744 Cho.
NOTE Confidence: 0.97278345

00:45:46.890 --> 00:45:48.569 I I really appreciate your
NOTE Confidence: 0.97278345

00:45:48.569 --> 00:45:49.690 your your talk, and and
NOTE Confidence: 0.97278345

00:45:49.690 --> 00:45:51.049 I wanna take the,
NOTE Confidence: 0.9788089

00:45:52.650 --> 00:45:54.650 host's prerogative to to follow-up
NOTE Confidence: 0.9788089

00:45:54.650 --> 00:45:55.770 with with a question, and
NOTE Confidence: 0.9788089

00:45:55.770 --> 00:45:56.890 then I wanna open up
NOTE Confidence: 0.9788089

00:45:56.890 --> 00:45:57.930 to the to the audience
NOTE Confidence: 0.9788089

00:45:57.930 --> 00:45:58.430 for
NOTE Confidence: 0.98940754

00:45:58.730 --> 00:45:59.869 discussion and questions.
NOTE Confidence: 0.96186066

00:46:02.385 --> 00:46:03.905 You know, one thing I
NOTE Confidence: 0.96186066

00:46:03.905 --> 00:46:05.185 I found myself wondering as
NOTE Confidence: 0.96186066

00:46:05.185 --> 00:46:05.765 I was
NOTE Confidence: 0.99616843

00:46:06.065 --> 00:46:07.185 listening to your talk and
NOTE Confidence: 0.99616843

00:46:07.185 --> 00:46:08.325 listening to your,

NOTE Confidence: 0.8795777

00:46:08.785 --> 00:46:09.765 your very exciting

NOTE Confidence: 0.9867131

00:46:10.305 --> 00:46:11.685 work on on an intervention

NOTE Confidence: 0.9867131

00:46:11.825 --> 00:46:12.325 to

NOTE Confidence: 0.97936666

00:46:12.625 --> 00:46:13.445 to increase,

NOTE Confidence: 0.99889106

00:46:14.465 --> 00:46:16.485 ethical engagement and ethical action

NOTE Confidence: 0.9660813

00:46:17.550 --> 00:46:18.590 is that it

NOTE Confidence: 0.9767011

00:46:19.230 --> 00:46:20.830 as as we hear more

NOTE Confidence: 0.9767011

00:46:20.830 --> 00:46:21.330 about,

NOTE Confidence: 0.9476589

00:46:22.670 --> 00:46:24.290 AI or research AI development,

NOTE Confidence: 0.9476589

00:46:24.510 --> 00:46:25.310 it seems like there is

NOTE Confidence: 0.9476589

00:46:25.310 --> 00:46:27.170 enormous competitive pressure

NOTE Confidence: 0.99922127

00:46:27.550 --> 00:46:29.010 going on between

NOTE Confidence: 0.9789314

00:46:29.675 --> 00:46:30.335 the developers

NOTE Confidence: 0.9352473

00:46:31.035 --> 00:46:31.775 and also

NOTE Confidence: 0.861489

00:46:32.555 --> 00:46:33.535 between countries.

NOTE Confidence: 0.84313834

00:46:34.155 --> 00:46:34.815 And that
NOTE Confidence: 0.9433248

00:46:35.515 --> 00:46:36.015 there's
NOTE Confidence: 0.8292226

00:46:36.715 --> 00:46:37.855 enormous pressure to
NOTE Confidence: 0.57598966

00:46:38.315 --> 00:46:38.815 put
NOTE Confidence: 0.97217494

00:46:39.195 --> 00:46:39.695 safeguards
NOTE Confidence: 0.9957308

00:46:40.395 --> 00:46:40.895 and
NOTE Confidence: 0.97451955

00:46:41.195 --> 00:46:42.875 ethical considerations to the side
NOTE Confidence: 0.97451955

00:46:42.875 --> 00:46:44.575 for developers, and there's also
NOTE Confidence: 0.99916816

00:46:45.090 --> 00:46:45.590 pressure
NOTE Confidence: 0.9992163

00:46:46.610 --> 00:46:47.270 to refrain
NOTE Confidence: 0.9991251

00:46:47.570 --> 00:46:48.630 from regulating
NOTE Confidence: 0.98687035

00:46:49.250 --> 00:46:50.290 on the part of nations
NOTE Confidence: 0.98687035

00:46:50.290 --> 00:46:51.750 because of fear that,
NOTE Confidence: 0.96801746

00:46:53.330 --> 00:46:54.770 other nations in competition are
NOTE Confidence: 0.96801746

00:46:54.770 --> 00:46:56.130 not going to regulate and
NOTE Confidence: 0.96801746

00:46:56.130 --> 00:46:57.110 that they'll lose,

NOTE Confidence: 0.87540144
00:46:57.890 --> 00:46:58.930 developers, they'll lose,
NOTE Confidence: 0.999707
00:47:01.265 --> 00:47:02.645 advantages to other countries.
NOTE Confidence: 0.8844494
00:47:03.185 --> 00:47:04.545 It I'm I'm curious sort
NOTE Confidence: 0.8844494
00:47:04.545 --> 00:47:05.045 of,
NOTE Confidence: 0.99189705
00:47:06.225 --> 00:47:07.185 you know, as you're thinking
NOTE Confidence: 0.99189705
00:47:07.185 --> 00:47:08.725 about interventions to increase
NOTE Confidence: 0.99715495
00:47:09.585 --> 00:47:10.485 ethical engagement,
NOTE Confidence: 0.9967975
00:47:10.945 --> 00:47:11.445 how
NOTE Confidence: 0.99768865
00:47:12.225 --> 00:47:12.725 you
NOTE Confidence: 0.9995625
00:47:13.860 --> 00:47:15.080 how we might think about
NOTE Confidence: 0.9995625
00:47:15.140 --> 00:47:15.640 offsetting
NOTE Confidence: 0.97448486
00:47:16.100 --> 00:47:18.500 or addressing the this problem
NOTE Confidence: 0.97448486
00:47:18.500 --> 00:47:20.180 of the competitive pressures that
NOTE Confidence: 0.97448486
00:47:20.180 --> 00:47:22.360 developers and countries are under.
NOTE Confidence: 0.931661
00:47:23.700 --> 00:47:24.520 Yeah. That's,
NOTE Confidence: 0.99901396

00:47:25.620 --> 00:47:26.840 something that is
NOTE Confidence: 0.9995863

00:47:27.140 --> 00:47:27.880 quite daunting.
NOTE Confidence: 0.9333406

00:47:29.525 --> 00:47:31.364 I think I would point
NOTE Confidence: 0.9333406

00:47:31.364 --> 00:47:33.685 to suggestions that Timnit Gebru
NOTE Confidence: 0.9333406

00:47:33.685 --> 00:47:35.465 had made and others,
NOTE Confidence: 0.95740443

00:47:36.005 --> 00:47:37.844 in in other countries as
NOTE Confidence: 0.95740443

00:47:37.844 --> 00:47:38.344 well,
NOTE Confidence: 0.8277118

00:47:39.525 --> 00:47:40.025 where,
NOTE Confidence: 0.99492913

00:47:41.525 --> 00:47:42.745 like minded developers
NOTE Confidence: 0.9898711

00:47:43.045 --> 00:47:43.545 who
NOTE Confidence: 0.99988544

00:47:44.310 --> 00:47:45.130 are interested
NOTE Confidence: 0.9998109

00:47:45.750 --> 00:47:46.250 in
NOTE Confidence: 0.9995004

00:47:46.710 --> 00:47:47.210 pursuing
NOTE Confidence: 0.93719465

00:47:49.030 --> 00:47:51.110 safe and effective AI for
NOTE Confidence: 0.93719465

00:47:51.110 --> 00:47:52.170 specific purposes
NOTE Confidence: 0.74701977

00:47:52.710 --> 00:47:53.530 joined together

NOTE Confidence: 0.7064317
00:47:54.390 --> 00:47:54.630 and,
NOTE Confidence: 0.75289416
00:47:56.705 --> 00:47:57.205 essentially,
NOTE Confidence: 0.9968172
00:47:57.905 --> 00:47:59.425 form their own groups and
NOTE Confidence: 0.9968172
00:47:59.425 --> 00:48:00.645 work on their own.
NOTE Confidence: 0.9877985
00:48:01.105 --> 00:48:02.145 So this has happened in
NOTE Confidence: 0.9877985
00:48:02.145 --> 00:48:03.745 New Zealand and in other
NOTE Confidence: 0.9877985
00:48:03.745 --> 00:48:04.245 countries,
NOTE Confidence: 0.9992787
00:48:05.344 --> 00:48:07.585 where people are collecting their
NOTE Confidence: 0.9992787
00:48:07.585 --> 00:48:08.325 own data
NOTE Confidence: 0.889529
00:48:09.520 --> 00:48:10.340 and developing,
NOTE Confidence: 0.9969653
00:48:11.200 --> 00:48:12.739 their own AI tools
NOTE Confidence: 0.8882362
00:48:13.120 --> 00:48:14.420 where they are
NOTE Confidence: 0.9036855
00:48:15.760 --> 00:48:17.780 more likely to have
NOTE Confidence: 0.7743144
00:48:18.080 --> 00:48:18.580 gotten,
NOTE Confidence: 0.99962103
00:48:19.520 --> 00:48:21.300 input from local communities
NOTE Confidence: 0.9760477

00:48:22.000 --> 00:48:23.360 that these will serve their
NOTE Confidence: 0.9760477

00:48:23.360 --> 00:48:23.860 needs
NOTE Confidence: 0.9893276

00:48:24.305 --> 00:48:26.305 and also have buy in
NOTE Confidence: 0.9893276

00:48:26.305 --> 00:48:27.905 from the communities to produce
NOTE Confidence: 0.9893276

00:48:27.905 --> 00:48:29.364 data, to provide data
NOTE Confidence: 0.98182255

00:48:29.665 --> 00:48:31.265 for these efforts so that
NOTE Confidence: 0.98182255

00:48:31.265 --> 00:48:32.885 they will be more
NOTE Confidence: 0.97670656

00:48:33.265 --> 00:48:35.605 likely to actually bring benefits
NOTE Confidence: 0.97670656

00:48:35.745 --> 00:48:36.565 to the communities.
NOTE Confidence: 0.96577847

00:48:37.825 --> 00:48:38.565 And then
NOTE Confidence: 0.94740164

00:48:38.870 --> 00:48:39.850 also that,
NOTE Confidence: 0.99643254

00:48:42.390 --> 00:48:43.210 I think there's
NOTE Confidence: 0.9925464

00:48:43.590 --> 00:48:45.270 a growing emphasis or growing
NOTE Confidence: 0.9925464

00:48:45.270 --> 00:48:45.770 recognition
NOTE Confidence: 0.93698376

00:48:46.469 --> 00:48:48.550 that these general AI tools
NOTE Confidence: 0.93698376

00:48:48.550 --> 00:48:49.530 like these LLMs

NOTE Confidence: 0.9132786
00:48:50.310 --> 00:48:50.810 are,
NOTE Confidence: 0.9989993
00:48:51.670 --> 00:48:53.510 probably not appropriate to be
NOTE Confidence: 0.9989993
00:48:53.510 --> 00:48:54.010 used
NOTE Confidence: 0.94586045
00:48:54.455 --> 00:48:57.015 broadly for very specific medical
NOTE Confidence: 0.94586045
00:48:57.015 --> 00:48:57.515 applications.
NOTE Confidence: 0.9804875
00:48:58.135 --> 00:48:59.175 And so that you don't
NOTE Confidence: 0.9804875
00:48:59.175 --> 00:48:59.675 necessarily
NOTE Confidence: 0.9995899
00:48:59.975 --> 00:49:00.795 need to use
NOTE Confidence: 0.956273
00:49:01.255 --> 00:49:02.395 these giant datasets,
NOTE Confidence: 0.98952323
00:49:03.495 --> 00:49:05.094 to get the effect that
NOTE Confidence: 0.98952323
00:49:05.094 --> 00:49:06.075 you're looking for,
NOTE Confidence: 0.93511295
00:49:06.935 --> 00:49:08.375 in an accurate and safe
NOTE Confidence: 0.93511295
00:49:08.375 --> 00:49:08.875 way.
NOTE Confidence: 0.9358793
00:49:11.530 --> 00:49:12.810 Let let me invite folks.
NOTE Confidence: 0.9358793
00:49:12.810 --> 00:49:13.849 If you'd like, we have
NOTE Confidence: 0.9358793

00:49:13.849 --> 00:49:14.969 a microphone set up,
NOTE Confidence: 0.98133546

00:49:15.450 --> 00:49:16.569 on this side of the
NOTE Confidence: 0.98133546

00:49:16.569 --> 00:49:17.069 auditorium,
NOTE Confidence: 0.977425

00:49:17.690 --> 00:49:19.050 and, hopefully, we don't have
NOTE Confidence: 0.977425

00:49:19.050 --> 00:49:20.329 one over there yet. But
NOTE Confidence: 0.977425

00:49:20.329 --> 00:49:21.130 if folks would like to
NOTE Confidence: 0.977425

00:49:21.130 --> 00:49:21.869 come up,
NOTE Confidence: 0.9623742

00:49:22.569 --> 00:49:23.710 to to the microphone,
NOTE Confidence: 0.9496256

00:49:31.342 --> 00:49:31.842 here.
NOTE Confidence: 0.98987323

00:49:38.380 --> 00:49:39.200 Thank you so
NOTE Confidence: 0.99297005

00:49:40.339 --> 00:49:40.839 much.
NOTE Confidence: 0.9344426

00:49:41.980 --> 00:49:43.099 One, two. Oh, there we
NOTE Confidence: 0.9344426

00:49:43.099 --> 00:49:44.219 go. Thank you so much.
NOTE Confidence: 0.9344426

00:49:44.219 --> 00:49:45.200 Long walk up.
NOTE Confidence: 0.9679896

00:49:47.260 --> 00:49:48.640 So I love this last,
NOTE Confidence: 0.96364063

00:49:49.260 --> 00:49:50.219 slide that you left us

NOTE Confidence: 0.96364063
00:49:50.219 --> 00:49:52.140 with, this last this concept
NOTE Confidence: 0.96364063
00:49:52.140 --> 00:49:53.925 of patient as data. And
NOTE Confidence: 0.96364063
00:49:54.005 --> 00:49:55.125 one of your colleagues at
NOTE Confidence: 0.96364063
00:49:55.125 --> 00:49:56.585 Stanford, Abraham Verghese,
NOTE Confidence: 0.94099075
00:49:57.125 --> 00:49:58.245 in two thousand eight wrote
NOTE Confidence: 0.94099075
00:49:58.245 --> 00:49:59.844 a very influential paper called
NOTE Confidence: 0.94099075
00:49:59.844 --> 00:50:01.685 patient as icon, icon as
NOTE Confidence: 0.94099075
00:50:01.685 --> 00:50:02.185 patient,
NOTE Confidence: 0.9562184
00:50:02.485 --> 00:50:03.844 where he introduced the concept
NOTE Confidence: 0.9562184
00:50:03.844 --> 00:50:04.745 of the iPatient.
NOTE Confidence: 0.9888514
00:50:05.525 --> 00:50:06.805 And I'm curious how you
NOTE Confidence: 0.9888514
00:50:06.805 --> 00:50:08.025 see this as different,
NOTE Confidence: 0.897438
00:50:08.610 --> 00:50:09.750 patient as data,
NOTE Confidence: 0.9586664
00:50:10.050 --> 00:50:11.350 as patient from ICON.
NOTE Confidence: 0.97864383
00:50:13.730 --> 00:50:14.530 Well, can you say a
NOTE Confidence: 0.97864383

00:50:14.530 --> 00:50:15.990 little bit more about the
NOTE Confidence: 0.97864383

00:50:16.290 --> 00:50:16.610 this
NOTE Confidence: 0.9591786

00:50:17.570 --> 00:50:18.450 I'm not sure I heard
NOTE Confidence: 0.9591786

00:50:18.450 --> 00:50:19.910 you. Sure. Sorry.
NOTE Confidence: 0.97274876

00:50:20.450 --> 00:50:22.230 So Abraham Verghese at Stanford
NOTE Confidence: 0.9843343

00:50:22.844 --> 00:50:23.885 came up with this concept
NOTE Confidence: 0.9843343

00:50:23.885 --> 00:50:24.785 of the iPatient
NOTE Confidence: 0.9029425

00:50:25.244 --> 00:50:26.125 where he spoke about that,
NOTE Confidence: 0.99947566

00:50:27.724 --> 00:50:28.224 the
NOTE Confidence: 0.9773397

00:50:28.525 --> 00:50:31.005 electronic version or, of the
NOTE Confidence: 0.9773397

00:50:31.005 --> 00:50:31.505 patient
NOTE Confidence: 0.89759743

00:50:31.885 --> 00:50:33.825 is getting ex excellent care,
NOTE Confidence: 0.93410987

00:50:34.205 --> 00:50:36.065 but oftentimes, the actual patient
NOTE Confidence: 0.93410987

00:50:36.125 --> 00:50:37.085 at the bedside in their
NOTE Confidence: 0.93410987

00:50:37.085 --> 00:50:38.610 family doesn't know what's happening.
NOTE Confidence: 0.98512036

00:50:38.930 --> 00:50:39.890 And that the work of

NOTE Confidence: 0.98512036
00:50:39.890 --> 00:50:41.570 the physicians is oftentimes on
NOTE Confidence: 0.98512036
00:50:41.570 --> 00:50:42.230 the iPatient
NOTE Confidence: 0.95253986
00:50:42.610 --> 00:50:44.290 in this electronic version. And
NOTE Confidence: 0.95253986
00:50:44.290 --> 00:50:45.489 I'm curious about the concept
NOTE Confidence: 0.95253986
00:50:45.489 --> 00:50:46.930 of the iPatient and also
NOTE Confidence: 0.95253986
00:50:46.930 --> 00:50:48.290 now your concept of patient
NOTE Confidence: 0.95253986
00:50:48.290 --> 00:50:49.989 as data or data source
NOTE Confidence: 0.95253986
00:50:50.130 --> 00:50:51.010 if they're the same. Yeah.
NOTE Confidence: 0.95253986
00:50:51.010 --> 00:50:52.290 I think they're basically the
NOTE Confidence: 0.95253986
00:50:52.290 --> 00:50:52.790 same.
NOTE Confidence: 0.9267347
00:50:53.435 --> 00:50:55.195 People had started talking about
NOTE Confidence: 0.9267347
00:50:55.195 --> 00:50:55.695 this,
NOTE Confidence: 0.9970939
00:50:56.395 --> 00:50:58.255 many years ago when
NOTE Confidence: 0.9993709
00:50:58.795 --> 00:51:00.795 we started having, you know,
NOTE Confidence: 0.9993709
00:51:00.795 --> 00:51:01.295 things
NOTE Confidence: 0.9483259

00:51:02.875 --> 00:51:03.695 like wearables
NOTE Confidence: 0.9490472

00:51:03.995 --> 00:51:05.695 and and other things where,
NOTE Confidence: 0.95718175

00:51:07.180 --> 00:51:08.880 people be were being replaced
NOTE Confidence: 0.9685768

00:51:09.580 --> 00:51:11.040 by their data and,
NOTE Confidence: 0.97361946

00:51:12.140 --> 00:51:13.660 represented by their data and
NOTE Confidence: 0.97361946

00:51:13.660 --> 00:51:15.040 and sometimes misrepresented
NOTE Confidence: 0.971476

00:51:15.900 --> 00:51:17.340 by their data. And, also
NOTE Confidence: 0.971476

00:51:17.580 --> 00:51:18.640 so I think that
NOTE Confidence: 0.9990898

00:51:20.895 --> 00:51:22.435 maybe the thing that's that's
NOTE Confidence: 0.9990898

00:51:22.575 --> 00:51:23.075 more
NOTE Confidence: 0.99008733

00:51:23.375 --> 00:51:24.915 significant now is,
NOTE Confidence: 0.98314893

00:51:25.775 --> 00:51:27.614 to the extent that AI
NOTE Confidence: 0.98314893

00:51:27.614 --> 00:51:29.215 tools can bring all these
NOTE Confidence: 0.98314893

00:51:29.215 --> 00:51:30.515 data sources together.
NOTE Confidence: 0.970853

00:51:31.295 --> 00:51:32.835 We can even make synthetic
NOTE Confidence: 0.970853

00:51:32.975 --> 00:51:34.094 data, so we don't even

NOTE Confidence: 0.970853
00:51:34.094 --> 00:51:35.219 need a person anymore. We
NOTE Confidence: 0.970853
00:51:35.219 --> 00:51:36.440 can just make a synthetic
NOTE Confidence: 0.970853
00:51:36.500 --> 00:51:37.000 person,
NOTE Confidence: 0.9542759
00:51:38.020 --> 00:51:38.520 that,
NOTE Confidence: 0.9863888
00:51:39.380 --> 00:51:40.820 that will be that will
NOTE Confidence: 0.9863888
00:51:40.820 --> 00:51:42.440 start to be seen as
NOTE Confidence: 0.9967151
00:51:42.739 --> 00:51:43.940 as we saw in this
NOTE Confidence: 0.9967151
00:51:43.940 --> 00:51:45.320 article that was published,
NOTE Confidence: 0.94220084
00:51:45.780 --> 00:51:47.480 that's the sort of benchmark
NOTE Confidence: 0.94220084
00:51:47.540 --> 00:51:49.140 that you're seeing as hitting
NOTE Confidence: 0.94220084
00:51:49.140 --> 00:51:49.380 is,
NOTE Confidence: 0.9901434
00:51:50.225 --> 00:51:52.005 treating the eye patient, not
NOTE Confidence: 0.9998204
00:51:53.425 --> 00:51:53.925 the
NOTE Confidence: 0.9999138
00:51:55.345 --> 00:51:55.845 actual
NOTE Confidence: 0.9972396
00:51:57.265 --> 00:51:57.765 patient.
NOTE Confidence: 0.87596065

00:51:59.185 --> 00:52:00.645 So thank you, doctor Shell.
NOTE Confidence: 0.9666361

00:52:01.185 --> 00:52:01.985 You know, one of the
NOTE Confidence: 0.9666361

00:52:01.985 --> 00:52:03.839 things that struck me particularly
NOTE Confidence: 0.9666361

00:52:03.839 --> 00:52:05.200 when you were giving the
NOTE Confidence: 0.9666361

00:52:05.200 --> 00:52:06.579 example of the,
NOTE Confidence: 0.8714393

00:52:08.079 --> 00:52:09.299 driverless car,
NOTE Confidence: 0.99736184

00:52:10.239 --> 00:52:10.739 that
NOTE Confidence: 0.98018396

00:52:11.119 --> 00:52:12.400 one of the questions that
NOTE Confidence: 0.98018396

00:52:12.400 --> 00:52:13.599 we have to ask is
NOTE Confidence: 0.98018396

00:52:13.599 --> 00:52:14.980 who is responsible
NOTE Confidence: 0.9988858

00:52:16.464 --> 00:52:18.484 for the helpfulness or harm
NOTE Confidence: 0.9332103

00:52:19.105 --> 00:52:20.785 of a technology. So, for
NOTE Confidence: 0.9332103

00:52:20.785 --> 00:52:21.844 example, if,
NOTE Confidence: 0.99782205

00:52:23.185 --> 00:52:24.964 if a driverless car
NOTE Confidence: 0.95863837

00:52:25.425 --> 00:52:27.025 hurt one person but was
NOTE Confidence: 0.95863837

00:52:27.025 --> 00:52:28.165 ultimately safer

NOTE Confidence: 0.98920035

00:52:28.705 --> 00:52:29.744 than the system that we

NOTE Confidence: 0.98920035

00:52:29.744 --> 00:52:31.185 have now on a on

NOTE Confidence: 0.98920035

00:52:31.185 --> 00:52:32.540 a larger scale.

NOTE Confidence: 0.9927674

00:52:33.880 --> 00:52:35.160 One could at least imagine

NOTE Confidence: 0.9927674

00:52:35.160 --> 00:52:36.680 an argument that that this

NOTE Confidence: 0.9927674

00:52:36.680 --> 00:52:38.040 is a technology that we

NOTE Confidence: 0.9927674

00:52:38.040 --> 00:52:39.580 would have to should pursue

NOTE Confidence: 0.9927674

00:52:39.719 --> 00:52:41.260 while accepting the consequences.

NOTE Confidence: 0.9966919

00:52:42.360 --> 00:52:43.100 And so

NOTE Confidence: 0.99769074

00:52:43.560 --> 00:52:44.860 shifting to the medical

NOTE Confidence: 0.9912586

00:52:45.734 --> 00:52:46.855 question, you know, a lot

NOTE Confidence: 0.9912586

00:52:46.855 --> 00:52:47.815 of what you talked about

NOTE Confidence: 0.9912586

00:52:47.815 --> 00:52:49.174 reminded me of almost the

NOTE Confidence: 0.9912586

00:52:49.174 --> 00:52:50.855 comparison between a public health

NOTE Confidence: 0.9912586

00:52:50.855 --> 00:52:51.355 approach

NOTE Confidence: 0.99403036

00:52:52.134 --> 00:52:53.994 to taking care of populations
NOTE Confidence: 0.9932201

00:52:54.535 --> 00:52:55.035 versus
NOTE Confidence: 0.995694

00:52:55.494 --> 00:52:56.954 what we do as physicians
NOTE Confidence: 0.995694

00:52:57.015 --> 00:52:58.714 taking care of individual patients.
NOTE Confidence: 0.9939873

00:52:59.335 --> 00:52:59.835 So
NOTE Confidence: 0.9441992

00:53:00.609 --> 00:53:01.969 so, for example, the the
NOTE Confidence: 0.9441992

00:53:01.969 --> 00:53:03.489 problem of the application of
NOTE Confidence: 0.9441992

00:53:03.489 --> 00:53:03.989 of
NOTE Confidence: 0.89099693

00:53:04.609 --> 00:53:05.589 a large dataset
NOTE Confidence: 0.982495

00:53:06.530 --> 00:53:07.030 fails
NOTE Confidence: 0.99807054

00:53:07.489 --> 00:53:08.290 to the extent that it
NOTE Confidence: 0.99807054

00:53:08.290 --> 00:53:10.469 doesn't actually know the the
NOTE Confidence: 0.9594708

00:53:10.849 --> 00:53:12.530 details of the individual patients
NOTE Confidence: 0.9594708

00:53:12.530 --> 00:53:13.510 sitting with you
NOTE Confidence: 0.9963252

00:53:13.810 --> 00:53:15.444 in the exam room. So
NOTE Confidence: 0.9963252

00:53:15.444 --> 00:53:17.204 so getting back to to

NOTE Confidence: 0.9963252
00:53:17.204 --> 00:53:18.984 the moral aspect of this,
NOTE Confidence: 0.97193944
00:53:19.605 --> 00:53:20.565 how do you how would
NOTE Confidence: 0.97193944
00:53:20.565 --> 00:53:21.704 you approach
NOTE Confidence: 0.9930217
00:53:22.085 --> 00:53:23.925 labeling the the good or
NOTE Confidence: 0.9930217
00:53:23.925 --> 00:53:25.224 the bad or the helpfulness
NOTE Confidence: 0.9930217
00:53:25.364 --> 00:53:26.265 or the harm
NOTE Confidence: 0.9997328
00:53:27.060 --> 00:53:27.560 of
NOTE Confidence: 0.99975157
00:53:28.100 --> 00:53:29.480 these AI tools
NOTE Confidence: 0.95762
00:53:30.500 --> 00:53:31.940 when you realize it may
NOTE Confidence: 0.95762
00:53:31.940 --> 00:53:33.460 help a lot of people
NOTE Confidence: 0.95762
00:53:33.460 --> 00:53:34.520 but harm individuals,
NOTE Confidence: 0.98353016
00:53:35.620 --> 00:53:37.140 which is already going on
NOTE Confidence: 0.98353016
00:53:37.140 --> 00:53:39.060 pre AI, but but perhaps
NOTE Confidence: 0.98353016
00:53:39.060 --> 00:53:40.644 a way of thinking about
NOTE Confidence: 0.98353016
00:53:40.644 --> 00:53:41.844 how to judge the value
NOTE Confidence: 0.98353016

00:53:41.844 --> 00:53:43.444 or or lack of value
NOTE Confidence: 0.98353016

00:53:43.444 --> 00:53:44.585 of AI tools.
NOTE Confidence: 0.94553614

00:53:46.164 --> 00:53:47.605 Yeah. Well, you had to
NOTE Confidence: 0.94553614

00:53:47.605 --> 00:53:49.144 ask the easy question. I
NOTE Confidence: 0.980649

00:53:50.164 --> 00:53:51.125 think I need help from
NOTE Confidence: 0.980649

00:53:51.125 --> 00:53:53.045 my bioethics colleagues over here.
NOTE Confidence: 0.980649

00:53:53.045 --> 00:53:54.184 But, I mean, I think
NOTE Confidence: 0.980649

00:53:54.290 --> 00:53:55.570 we have faced this question
NOTE Confidence: 0.980649

00:53:55.570 --> 00:53:56.849 a lot. Right? I mean
NOTE Confidence: 0.980649

00:53:57.089 --> 00:53:58.930 so there's always this tension
NOTE Confidence: 0.980649

00:53:58.930 --> 00:54:00.770 between the individual and the
NOTE Confidence: 0.980649

00:54:00.770 --> 00:54:01.270 population.
NOTE Confidence: 0.9941745

00:54:02.849 --> 00:54:04.469 And one way that we
NOTE Confidence: 0.9867173

00:54:04.849 --> 00:54:06.130 look at that is if
NOTE Confidence: 0.9867173

00:54:06.130 --> 00:54:07.875 we're looking at population effects
NOTE Confidence: 0.9867173

00:54:08.035 --> 00:54:08.855 or population

NOTE Confidence: 0.99456656
00:54:09.555 --> 00:54:10.055 interventions,
NOTE Confidence: 0.98794913
00:54:11.075 --> 00:54:12.195 we tend to set a
NOTE Confidence: 0.98794913
00:54:12.195 --> 00:54:13.895 very, very high standard
NOTE Confidence: 0.99839896
00:54:14.594 --> 00:54:16.035 for those. Right? We don't
NOTE Confidence: 0.99839896
00:54:16.035 --> 00:54:17.335 use them in all cases.
NOTE Confidence: 0.95924217
00:54:17.715 --> 00:54:18.775 There have to be
NOTE Confidence: 0.9377064
00:54:19.075 --> 00:54:19.575 clear,
NOTE Confidence: 0.9991063
00:54:20.755 --> 00:54:21.735 clear benefits
NOTE Confidence: 0.9853622
00:54:22.114 --> 00:54:23.710 from using it at the
NOTE Confidence: 0.9853622
00:54:23.710 --> 00:54:24.850 population level,
NOTE Confidence: 0.7898375
00:54:25.710 --> 00:54:26.210 and,
NOTE Confidence: 0.9984207
00:54:27.310 --> 00:54:28.930 high standards for efficacy.
NOTE Confidence: 0.99665433
00:54:29.630 --> 00:54:30.750 So that's one thing that
NOTE Confidence: 0.99665433
00:54:30.750 --> 00:54:31.950 I think is not happening
NOTE Confidence: 0.99665433
00:54:31.950 --> 00:54:32.610 right now.
NOTE Confidence: 0.9898817

00:54:33.230 --> 00:54:34.350 And then in terms of
NOTE Confidence: 0.9898817

00:54:34.350 --> 00:54:35.790 weighing the many versus the
NOTE Confidence: 0.9898817

00:54:35.790 --> 00:54:36.910 one, you know, I think
NOTE Confidence: 0.9898817

00:54:36.910 --> 00:54:37.950 that you can't really
NOTE Confidence: 0.96389294

00:54:38.989 --> 00:54:39.765 I mean, I know I
NOTE Confidence: 0.96389294

00:54:39.765 --> 00:54:41.125 talk with my students about
NOTE Confidence: 0.96389294

00:54:41.125 --> 00:54:43.545 this idea of, effective altruism
NOTE Confidence: 0.93905807

00:54:43.924 --> 00:54:44.645 and these,
NOTE Confidence: 0.9958739

00:54:44.964 --> 00:54:46.025 kinds of extreme
NOTE Confidence: 0.931994

00:54:46.805 --> 00:54:48.025 extreme arguments,
NOTE Confidence: 0.9975434

00:54:48.724 --> 00:54:50.025 about, you know,
NOTE Confidence: 0.9910303

00:54:50.565 --> 00:54:51.065 utilitarianism.
NOTE Confidence: 0.9955385

00:54:51.765 --> 00:54:52.905 So I think we
NOTE Confidence: 0.999373

00:54:53.250 --> 00:54:54.450 we need to apply those
NOTE Confidence: 0.999373

00:54:54.450 --> 00:54:54.950 same
NOTE Confidence: 0.9921562

00:54:55.250 --> 00:54:57.090 principles where we don't go

NOTE Confidence: 0.9921562
00:54:57.090 --> 00:54:58.550 to the extremes of utilitarianism,
NOTE Confidence: 0.99358815
00:55:00.050 --> 00:55:01.110 for many reasons.
NOTE Confidence: 0.9479165
00:55:03.010 --> 00:55:04.370 So and in addition, I
NOTE Confidence: 0.9479165
00:55:04.370 --> 00:55:04.870 think,
NOTE Confidence: 0.97183317
00:55:05.650 --> 00:55:06.850 I think what you're what
NOTE Confidence: 0.97183317
00:55:06.850 --> 00:55:07.510 you said
NOTE Confidence: 0.99154055
00:55:08.635 --> 00:55:10.415 also applies, which is that
NOTE Confidence: 0.9741036
00:55:11.195 --> 00:55:13.035 right now, AI tools or
NOTE Confidence: 0.9741036
00:55:13.035 --> 00:55:14.395 even the whole concept of
NOTE Confidence: 0.9741036
00:55:14.395 --> 00:55:15.455 precision medicine,
NOTE Confidence: 0.99980986
00:55:15.915 --> 00:55:17.295 which is supposed to take
NOTE Confidence: 0.9605913
00:55:17.595 --> 00:55:19.195 aggregate data and apply it
NOTE Confidence: 0.9605913
00:55:19.195 --> 00:55:20.715 to individuals still has a
NOTE Confidence: 0.9605913
00:55:20.715 --> 00:55:21.215 gap.
NOTE Confidence: 0.9822909
00:55:21.515 --> 00:55:23.040 Right? We can't do that,
NOTE Confidence: 0.9822909

00:55:23.040 --> 00:55:24.320 and that's what happens in
NOTE Confidence: 0.9822909

00:55:24.320 --> 00:55:25.540 a physician's head.
NOTE Confidence: 0.99962765

00:55:25.840 --> 00:55:27.200 Right? They're trying to bridge
NOTE Confidence: 0.99962765

00:55:27.200 --> 00:55:28.900 that gap between the aggregate
NOTE Confidence: 0.99962765

00:55:28.960 --> 00:55:29.460 data
NOTE Confidence: 0.9855431

00:55:30.160 --> 00:55:31.520 on how to treat patients
NOTE Confidence: 0.9855431

00:55:31.520 --> 00:55:32.880 that are like this patient
NOTE Confidence: 0.9855431

00:55:32.880 --> 00:55:34.000 and then how to treat
NOTE Confidence: 0.9855431

00:55:34.000 --> 00:55:35.680 this actual patient that's sitting
NOTE Confidence: 0.9855431

00:55:35.680 --> 00:55:36.344 in front of you.
NOTE Confidence: 0.98974055

00:55:37.145 --> 00:55:38.344 And and the AI has
NOTE Confidence: 0.98974055

00:55:38.344 --> 00:55:39.965 not bridged that gap yet.
NOTE Confidence: 0.9987688

00:55:40.505 --> 00:55:41.244 Thank you.
NOTE Confidence: 0.99950844

00:55:43.864 --> 00:55:44.905 Hi. Thank you for the
NOTE Confidence: 0.99950844

00:55:44.905 --> 00:55:45.224 talk.
NOTE Confidence: 0.9783065

00:55:46.025 --> 00:55:48.025 I'm an undergraduate student studying

NOTE Confidence: 0.9783065
00:55:48.025 --> 00:55:49.160 cognitive science and AI, so
NOTE Confidence: 0.9783065
00:55:49.160 --> 00:55:49.960 this was really in the
NOTE Confidence: 0.9783065
00:55:49.960 --> 00:55:51.160 niche that I'm very interested
NOTE Confidence: 0.9783065
00:55:51.160 --> 00:55:52.300 in, so thank you.
NOTE Confidence: 0.9824855
00:55:52.920 --> 00:55:54.280 I had a few questions,
NOTE Confidence: 0.9824855
00:55:54.280 --> 00:55:55.160 but I'll narrow it down
NOTE Confidence: 0.9824855
00:55:55.160 --> 00:55:56.520 into something that you talked
NOTE Confidence: 0.9824855
00:55:56.520 --> 00:55:57.560 more about, which is kind
NOTE Confidence: 0.9824855
00:55:57.560 --> 00:55:59.480 of this perception of having
NOTE Confidence: 0.9824855
00:55:59.480 --> 00:56:00.760 not a patient, but, like,
NOTE Confidence: 0.9824855
00:56:00.760 --> 00:56:02.700 their their digital information
NOTE Confidence: 0.94939655
00:56:03.239 --> 00:56:04.285 with, a bit of a
NOTE Confidence: 0.94939655
00:56:04.285 --> 00:56:05.185 negative connotation,
NOTE Confidence: 0.93347996
00:56:05.725 --> 00:56:07.005 which I wanted to know
NOTE Confidence: 0.93347996
00:56:07.005 --> 00:56:08.525 in the aspect of trying
NOTE Confidence: 0.93347996

00:56:08.525 --> 00:56:10.305 to remove racial gender
NOTE Confidence: 0.98397833

00:56:10.605 --> 00:56:11.805 bias that are kind of
NOTE Confidence: 0.98397833

00:56:11.805 --> 00:56:13.405 inherent and something that's very
NOTE Confidence: 0.98397833

00:56:13.405 --> 00:56:15.325 prevalent in everyone's cognition, whether
NOTE Confidence: 0.98397833

00:56:15.325 --> 00:56:16.465 they like it or not,
NOTE Confidence: 0.98397833

00:56:16.525 --> 00:56:17.485 how do you see the
NOTE Confidence: 0.98397833

00:56:17.485 --> 00:56:18.705 importance of
NOTE Confidence: 0.9806383

00:56:19.080 --> 00:56:20.780 pure data with wearables,
NOTE Confidence: 0.9264817

00:56:21.800 --> 00:56:23.260 kind of both emerging,
NOTE Confidence: 0.98660094

00:56:24.120 --> 00:56:24.620 the
NOTE Confidence: 0.99216187

00:56:24.920 --> 00:56:26.040 taking maybe a little bit
NOTE Confidence: 0.99216187

00:56:26.040 --> 00:56:27.100 of a devil's advocate
NOTE Confidence: 0.96954244

00:56:27.640 --> 00:56:28.760 view of the research that
NOTE Confidence: 0.96954244

00:56:28.760 --> 00:56:30.200 you did give, what are
NOTE Confidence: 0.96954244

00:56:30.200 --> 00:56:31.560 the benefits that you could
NOTE Confidence: 0.96954244

00:56:31.560 --> 00:56:33.000 imagine seeing aside from the

NOTE Confidence: 0.96954244
00:56:33.000 --> 00:56:33.980 few that I mentioned?
NOTE Confidence: 0.99949986
00:56:34.585 --> 00:56:35.885 Okay. Great question.
NOTE Confidence: 0.89935225
00:56:37.625 --> 00:56:39.325 I think this is where
NOTE Confidence: 0.99556196
00:56:40.025 --> 00:56:41.965 this issue of the digital
NOTE Confidence: 0.99556196
00:56:42.025 --> 00:56:43.805 determinants of health come in,
NOTE Confidence: 0.9987295
00:56:44.505 --> 00:56:45.645 which is that
NOTE Confidence: 0.99860173
00:56:47.130 --> 00:56:47.630 only
NOTE Confidence: 0.9672753
00:56:48.170 --> 00:56:50.170 very wealthy privileged people get
NOTE Confidence: 0.9672753
00:56:50.170 --> 00:56:51.450 to have all this data
NOTE Confidence: 0.9672753
00:56:51.450 --> 00:56:53.289 taken about them, and that
NOTE Confidence: 0.9672753
00:56:53.289 --> 00:56:55.130 shapes all the AI, you
NOTE Confidence: 0.9672753
00:56:55.130 --> 00:56:56.910 know, algorithms that we know.
NOTE Confidence: 0.9945958
00:56:57.529 --> 00:56:59.369 So there's deep biases built
NOTE Confidence: 0.9945958
00:56:59.369 --> 00:57:00.670 into the data collection
NOTE Confidence: 0.9887022
00:57:01.049 --> 00:57:02.510 and also to the application
NOTE Confidence: 0.9887022

00:57:02.569 --> 00:57:03.765 of it afterwards.
NOTE Confidence: 0.8863317

00:57:04.145 --> 00:57:04.645 So,
NOTE Confidence: 0.97285134

00:57:06.385 --> 00:57:07.985 whereas it could be I
NOTE Confidence: 0.97285134

00:57:07.985 --> 00:57:09.265 mean, people make the argument
NOTE Confidence: 0.97285134

00:57:09.265 --> 00:57:10.864 that AI will be less
NOTE Confidence: 0.97285134

00:57:10.864 --> 00:57:12.085 biased than humans.
NOTE Confidence: 0.94209707

00:57:13.344 --> 00:57:13.844 But,
NOTE Confidence: 0.98157376

00:57:14.385 --> 00:57:15.425 right now, we're sort of
NOTE Confidence: 0.98157376

00:57:15.425 --> 00:57:16.530 in a vicious cycle where
NOTE Confidence: 0.98157376

00:57:16.610 --> 00:57:17.650 we can't really get out
NOTE Confidence: 0.98157376

00:57:17.650 --> 00:57:18.450 of our we can't get
NOTE Confidence: 0.98157376

00:57:18.450 --> 00:57:19.330 of our own out of
NOTE Confidence: 0.98157376

00:57:19.330 --> 00:57:20.230 our own way.
NOTE Confidence: 0.96842074

00:57:21.970 --> 00:57:22.470 So,
NOTE Confidence: 0.99309015

00:57:23.170 --> 00:57:24.710 I think that, you know,
NOTE Confidence: 0.9844666

00:57:25.650 --> 00:57:26.930 this just goes to this

NOTE Confidence: 0.9844666
00:57:26.930 --> 00:57:28.210 is gonna I just hope
NOTE Confidence: 0.9844666
00:57:28.210 --> 00:57:29.330 that this is not another
NOTE Confidence: 0.9844666
00:57:29.330 --> 00:57:31.555 example of technologies using to
NOTE Confidence: 0.9844666
00:57:31.555 --> 00:57:33.415 exact being used to exacerbate
NOTE Confidence: 0.99936897
00:57:34.115 --> 00:57:34.615 existing
NOTE Confidence: 0.8802452
00:57:35.075 --> 00:57:35.575 disparities.
NOTE Confidence: 0.9994425
00:57:36.355 --> 00:57:37.955 So people who have less
NOTE Confidence: 0.9994425
00:57:37.955 --> 00:57:39.095 data about them
NOTE Confidence: 0.9442027
00:57:39.395 --> 00:57:40.995 will be less able to
NOTE Confidence: 0.9442027
00:57:40.995 --> 00:57:42.915 benefit from the data that's
NOTE Confidence: 0.9442027
00:57:42.915 --> 00:57:44.435 out there provided by others.
NOTE Confidence: 0.9442027
00:57:44.435 --> 00:57:45.395 And do you need health
NOTE Confidence: 0.9442027
00:57:45.395 --> 00:57:45.895 data,
NOTE Confidence: 0.98721904
00:57:46.350 --> 00:57:47.630 specifically for health? Because if
NOTE Confidence: 0.98721904
00:57:47.630 --> 00:57:48.670 you're thinking about if someone's
NOTE Confidence: 0.98721904

00:57:48.670 --> 00:57:50.190 using their iPhone and all
NOTE Confidence: 0.98721904

00:57:50.190 --> 00:57:51.150 of the data that's being
NOTE Confidence: 0.98721904

00:57:51.150 --> 00:57:52.590 collected with the cookies and
NOTE Confidence: 0.98721904

00:57:52.590 --> 00:57:53.890 kind of targeted advertisements,
NOTE Confidence: 0.97945905

00:57:54.350 --> 00:57:55.790 that's has quite a large
NOTE Confidence: 0.97945905

00:57:55.790 --> 00:57:57.710 equilibrium for, like, everyone depending
NOTE Confidence: 0.97945905

00:57:57.710 --> 00:57:59.545 on race and, like, the
NOTE Confidence: 0.97945905

00:57:59.545 --> 00:58:01.785 specific accuracy of advertisement has
NOTE Confidence: 0.97945905

00:58:01.785 --> 00:58:02.985 proven that we do have
NOTE Confidence: 0.97945905

00:58:02.985 --> 00:58:03.625 a lot of data on
NOTE Confidence: 0.97945905

00:58:03.625 --> 00:58:04.345 people. We do know what
NOTE Confidence: 0.97945905

00:58:04.345 --> 00:58:05.465 they're interested in, especially in
NOTE Confidence: 0.97945905

00:58:05.465 --> 00:58:06.585 a health situation. Do you
NOTE Confidence: 0.97945905

00:58:06.585 --> 00:58:07.885 mean it more for wearables
NOTE Confidence: 0.9839636

00:58:08.185 --> 00:58:09.625 and, you know, products that
NOTE Confidence: 0.9839636

00:58:09.625 --> 00:58:10.585 people have to buy that

NOTE Confidence: 0.9839636

00:58:10.585 --> 00:58:12.010 are monitoring, like, their heart

NOTE Confidence: 0.9839636

00:58:12.010 --> 00:58:14.330 rate or other physical. Well,

NOTE Confidence: 0.9839636

00:58:14.330 --> 00:58:15.610 I just think that think

NOTE Confidence: 0.9839636

00:58:15.610 --> 00:58:17.050 about who has wearables and

NOTE Confidence: 0.9839636

00:58:17.050 --> 00:58:18.090 who does not. Right. Who

NOTE Confidence: 0.9839636

00:58:18.090 --> 00:58:19.790 has iPhones, who does not.

NOTE Confidence: 0.9839636

00:58:19.850 --> 00:58:21.290 Who has Internet, who does

NOTE Confidence: 0.9839636

00:58:21.290 --> 00:58:22.570 not. I live in a

NOTE Confidence: 0.9839636

00:58:22.570 --> 00:58:24.430 neighborhood that is surrounded by

NOTE Confidence: 0.97587156

00:58:24.735 --> 00:58:25.955 Silicon Valley billionaires,

NOTE Confidence: 0.9943434

00:58:26.415 --> 00:58:27.775 and I don't have cell

NOTE Confidence: 0.9943434

00:58:27.775 --> 00:58:29.215 phone service at my house

NOTE Confidence: 0.9943434

00:58:29.215 --> 00:58:30.415 because it's in a rural

NOTE Confidence: 0.9943434

00:58:30.415 --> 00:58:30.915 area.

NOTE Confidence: 0.98402345

00:58:31.375 --> 00:58:32.655 So I think about my

NOTE Confidence: 0.98402345

00:58:32.655 --> 00:58:34.255 neighbors who are not Silicon
NOTE Confidence: 0.98402345

00:58:34.255 --> 00:58:34.755 Valley
NOTE Confidence: 0.9177531

00:58:35.055 --> 00:58:35.555 billionaires,
NOTE Confidence: 0.99617517

00:58:36.015 --> 00:58:37.535 and none of us can
NOTE Confidence: 0.99617517

00:58:37.535 --> 00:58:38.435 use Uber.
NOTE Confidence: 0.9863371

00:58:38.760 --> 00:58:39.880 None of us can use
NOTE Confidence: 0.9863371

00:58:39.880 --> 00:58:40.380 DoorDash.
NOTE Confidence: 0.9403227

00:58:41.000 --> 00:58:42.380 And none of us can,
NOTE Confidence: 0.9992669

00:58:42.920 --> 00:58:43.420 get
NOTE Confidence: 0.88002586

00:58:44.760 --> 00:58:46.140 access to telehealth
NOTE Confidence: 0.98357964

00:58:46.680 --> 00:58:49.100 applications. So there's huge disparities
NOTE Confidence: 0.98357964

00:58:49.320 --> 00:58:50.680 here that I think are
NOTE Confidence: 0.98357964

00:58:50.680 --> 00:58:53.020 ignored by people who are
NOTE Confidence: 0.9991762

00:58:54.835 --> 00:58:57.235 proponents of these technologies that
NOTE Confidence: 0.9991762

00:58:57.235 --> 00:58:57.735 require
NOTE Confidence: 0.99972504

00:58:58.275 --> 00:58:59.255 a lot of resources

NOTE Confidence: 0.9981287
00:58:59.555 --> 00:59:00.935 to be able to access.
NOTE Confidence: 0.98535275
00:59:01.555 --> 00:59:02.775 I see. Thank you.
NOTE Confidence: 0.99269223
00:59:05.555 --> 00:59:06.835 Hi. Thanks so much for,
NOTE Confidence: 0.99269223
00:59:07.155 --> 00:59:08.035 for the talk and the
NOTE Confidence: 0.99269223
00:59:08.035 --> 00:59:08.535 framing.
NOTE Confidence: 0.9972881
00:59:09.420 --> 00:59:10.880 As I think about the,
NOTE Confidence: 0.99953496
00:59:11.420 --> 00:59:12.400 clinical application
NOTE Confidence: 0.9983133
00:59:12.700 --> 00:59:14.079 of these AI tools,
NOTE Confidence: 0.9746915
00:59:14.940 --> 00:59:16.540 one pattern that has emerged,
NOTE Confidence: 0.9746915
00:59:16.540 --> 00:59:18.000 especially with the very,
NOTE Confidence: 0.9479622
00:59:18.300 --> 00:59:19.760 I would say, loose regulatory
NOTE Confidence: 0.9479622
00:59:19.819 --> 00:59:21.020 framework is a lot of
NOTE Confidence: 0.9479622
00:59:21.020 --> 00:59:23.040 nondevice clinical decision support.
NOTE Confidence: 0.9960901
00:59:23.785 --> 00:59:24.605 And I think
NOTE Confidence: 0.9697672
00:59:24.905 --> 00:59:26.345 as we think about this
NOTE Confidence: 0.9697672

00:59:26.345 --> 00:59:27.945 idea of the copilot, you
NOTE Confidence: 0.9697672

00:59:27.945 --> 00:59:28.985 mentioned this with the moral
NOTE Confidence: 0.9697672

00:59:28.985 --> 00:59:30.905 disengagement. Right? I'm not telling
NOTE Confidence: 0.9697672

00:59:30.905 --> 00:59:32.285 the doctor what to do.
NOTE Confidence: 0.9697672

00:59:32.425 --> 00:59:34.205 The copilot is just suggesting
NOTE Confidence: 0.9697672

00:59:34.265 --> 00:59:35.385 things, and then the doctor
NOTE Confidence: 0.9697672

00:59:35.385 --> 00:59:36.365 makes the decision.
NOTE Confidence: 0.9996878

00:59:36.905 --> 00:59:38.045 I think that framework
NOTE Confidence: 0.99939466

00:59:39.200 --> 00:59:40.980 is vaguely justifiable
NOTE Confidence: 0.99913967

00:59:41.440 --> 00:59:43.519 when the algorithms are really
NOTE Confidence: 0.99913967

00:59:43.519 --> 00:59:44.740 serving more as
NOTE Confidence: 0.75643575

00:59:45.359 --> 00:59:46.019 a deterministic
NOTE Confidence: 0.97665775

00:59:46.880 --> 00:59:47.380 representations
NOTE Confidence: 0.99915403

00:59:47.760 --> 00:59:49.299 of possible diagnostic
NOTE Confidence: 0.94738054

00:59:49.760 --> 00:59:51.440 possibilities. Right? So could be
NOTE Confidence: 0.94738054

00:59:51.440 --> 00:59:52.319 one of these six think

NOTE Confidence: 0.94738054
00:59:52.319 --> 00:59:53.599 about these ten things and
NOTE Confidence: 0.94738054
00:59:53.599 --> 00:59:54.339 you choose.
NOTE Confidence: 0.9993753
00:59:55.095 --> 00:59:56.135 But as the models get
NOTE Confidence: 0.9993753
00:59:56.135 --> 00:59:56.875 more sophisticated
NOTE Confidence: 0.98647326
00:59:57.175 --> 00:59:58.155 and the explainability
NOTE Confidence: 0.9248976
00:59:58.615 --> 00:59:59.595 starts to disappear,
NOTE Confidence: 0.9856694
01:00:00.215 --> 01:00:01.255 so these models are more
NOTE Confidence: 0.9856694
01:00:01.255 --> 01:00:02.535 about discovery than they are
NOTE Confidence: 0.9856694
01:00:02.535 --> 01:00:03.435 about confirmation.
NOTE Confidence: 0.9860709
01:00:04.135 --> 01:00:05.515 You have a digital pathology
NOTE Confidence: 0.9860709
01:00:05.655 --> 01:00:06.795 algorithm that says,
NOTE Confidence: 0.9674666
01:00:07.175 --> 01:00:08.635 this is a breast cancer,
NOTE Confidence: 0.9674666
01:00:08.910 --> 01:00:10.589 but the pathologist can't tell
NOTE Confidence: 0.9674666
01:00:10.589 --> 01:00:11.869 that. They they they're not
NOTE Confidence: 0.9674666
01:00:11.869 --> 01:00:12.990 able to see what the
NOTE Confidence: 0.9674666

01:00:12.990 --> 01:00:14.049 model can see.
NOTE Confidence: 0.94968617

01:00:15.150 --> 01:00:16.750 I think increasingly with this
NOTE Confidence: 0.94968617

01:00:16.750 --> 01:00:18.430 idea that the model is
NOTE Confidence: 0.94968617

01:00:18.430 --> 01:00:20.510 just providing advice starts to
NOTE Confidence: 0.94968617

01:00:20.510 --> 01:00:21.970 become very hard to defend.
NOTE Confidence: 0.99564743

01:00:22.535 --> 01:00:23.575 And so I wonder what
NOTE Confidence: 0.99564743

01:00:23.575 --> 01:00:25.115 your perspective is about
NOTE Confidence: 0.9839289

01:00:25.495 --> 01:00:27.015 sort of the moral dilemma
NOTE Confidence: 0.9839289

01:00:27.015 --> 01:00:28.235 that the physician
NOTE Confidence: 0.97938794

01:00:28.695 --> 01:00:29.975 or the provider is then
NOTE Confidence: 0.97938794

01:00:29.975 --> 01:00:31.575 placed in when they don't
NOTE Confidence: 0.97938794

01:00:31.575 --> 01:00:33.115 feel competent to evaluate
NOTE Confidence: 0.9358323

01:00:34.055 --> 01:00:35.035 the the model's,
NOTE Confidence: 0.9711808

01:00:35.740 --> 01:00:37.660 outcome prediction. And what is
NOTE Confidence: 0.9711808

01:00:37.660 --> 01:00:39.500 their obligation in that scenario?
NOTE Confidence: 0.9711808

01:00:39.500 --> 01:00:40.940 Is it for the in

NOTE Confidence: 0.9711808
01:00:40.940 --> 01:00:42.300 the patient's best interest? Is
NOTE Confidence: 0.9711808
01:00:42.300 --> 01:00:43.180 it to defer to the
NOTE Confidence: 0.9711808
01:00:43.180 --> 01:00:44.080 model? Because
NOTE Confidence: 0.9841893
01:00:44.380 --> 01:00:45.900 in the performance analysis, the
NOTE Confidence: 0.9841893
01:00:45.900 --> 01:00:47.260 model is superhuman. Is it
NOTE Confidence: 0.9841893
01:00:47.260 --> 01:00:48.540 to override the model because
NOTE Confidence: 0.9841893
01:00:48.540 --> 01:00:49.555 of its lack of explainability?
NOTE Confidence: 0.9841893
01:00:49.555 --> 01:00:50.515 Is it to say, I
NOTE Confidence: 0.9841893
01:00:50.515 --> 01:00:51.575 won't use a model
NOTE Confidence: 0.9978523
01:00:52.195 --> 01:00:53.735 that is not readily explainable?
NOTE Confidence: 0.99811435
01:00:54.195 --> 01:00:55.155 How how do you think
NOTE Confidence: 0.99811435
01:00:55.155 --> 01:00:55.655 about
NOTE Confidence: 0.9971537
01:00:56.035 --> 01:00:57.555 the the moral obligation of
NOTE Confidence: 0.9971537
01:00:57.555 --> 01:00:59.095 the physician in that experience
NOTE Confidence: 0.9971537
01:00:59.155 --> 01:00:59.655 when
NOTE Confidence: 0.998512

01:01:00.115 --> 01:01:01.155 the model is now being
NOTE Confidence: 0.998512

01:01:01.155 --> 01:01:02.535 made available to practitioners?
NOTE Confidence: 0.9986201

01:01:04.160 --> 01:01:04.660 Yeah.
NOTE Confidence: 0.99488086

01:01:05.520 --> 01:01:07.620 Again, a super simple question.
NOTE Confidence: 0.99488086

01:01:07.760 --> 01:01:08.260 Mhmm.
NOTE Confidence: 0.93698514

01:01:09.840 --> 01:01:11.760 I mean, when I raise
NOTE Confidence: 0.93698514

01:01:11.760 --> 01:01:13.700 this question with other clinicians,
NOTE Confidence: 0.8392681

01:01:15.520 --> 01:01:16.420 many say,
NOTE Confidence: 0.9918219

01:01:17.045 --> 01:01:18.325 well, I'm in that position
NOTE Confidence: 0.9918219

01:01:18.325 --> 01:01:19.285 all the time where I
NOTE Confidence: 0.9918219

01:01:19.285 --> 01:01:20.565 don't know what's going on.
NOTE Confidence: 0.9918219

01:01:20.565 --> 01:01:21.845 I don't know why. There's
NOTE Confidence: 0.9918219

01:01:21.845 --> 01:01:23.525 never any explanations for any
NOTE Confidence: 0.9918219

01:01:23.525 --> 01:01:24.565 of the lab results or
NOTE Confidence: 0.9918219

01:01:24.565 --> 01:01:25.765 anything like that. So why
NOTE Confidence: 0.9918219

01:01:25.765 --> 01:01:27.065 should this be any different?

NOTE Confidence: 0.9780286
01:01:28.565 --> 01:01:29.865 So on the one hand,
NOTE Confidence: 0.7948928
01:01:32.190 --> 01:01:32.690 maybe,
NOTE Confidence: 0.9874442
01:01:33.310 --> 01:01:34.130 but I think
NOTE Confidence: 0.9373279
01:01:34.430 --> 01:01:36.450 I think what's different here
NOTE Confidence: 0.9373279
01:01:36.510 --> 01:01:37.570 is that
NOTE Confidence: 0.9922994
01:01:38.510 --> 01:01:39.330 there is
NOTE Confidence: 0.98496515
01:01:40.030 --> 01:01:41.410 there's no evaluative
NOTE Confidence: 0.9704743
01:01:41.869 --> 01:01:42.369 standards
NOTE Confidence: 0.9825198
01:01:42.750 --> 01:01:43.950 that are put into place
NOTE Confidence: 0.9825198
01:01:43.950 --> 01:01:45.150 if a system like that,
NOTE Confidence: 0.9825198
01:01:45.150 --> 01:01:46.510 like a diagnostic thing in
NOTE Confidence: 0.9825198
01:01:46.510 --> 01:01:48.005 pathology gets installed
NOTE Confidence: 0.95392317
01:01:48.545 --> 01:01:49.684 in a health system?
NOTE Confidence: 0.97793484
01:01:50.305 --> 01:01:52.404 How is their general assurance?
NOTE Confidence: 0.96150804
01:01:53.025 --> 01:01:54.545 And part of the problem
NOTE Confidence: 0.96150804

01:01:54.545 --> 01:01:56.244 is that we've seen with
NOTE Confidence: 0.96150804

01:01:56.305 --> 01:01:58.065 Epic and other, like the
NOTE Confidence: 0.96150804

01:01:58.065 --> 01:01:59.585 Epic sepsis system and all
NOTE Confidence: 0.96150804

01:01:59.585 --> 01:02:01.500 that, that, you know, they
NOTE Confidence: 0.96150804

01:02:01.500 --> 01:02:03.180 seem like they perform great
NOTE Confidence: 0.96150804

01:02:03.180 --> 01:02:03.900 when they,
NOTE Confidence: 0.99823856

01:02:04.460 --> 01:02:05.840 when they are first reported
NOTE Confidence: 0.9766118

01:02:06.300 --> 01:02:07.900 on whatever dataset that was
NOTE Confidence: 0.9766118

01:02:07.900 --> 01:02:09.100 used to generate it, and
NOTE Confidence: 0.9766118

01:02:09.100 --> 01:02:10.060 we don't know what the
NOTE Confidence: 0.9766118

01:02:10.060 --> 01:02:11.500 datasets are because they're not
NOTE Confidence: 0.9766118

01:02:11.500 --> 01:02:13.194 transparent about that. And then
NOTE Confidence: 0.9766118

01:02:13.194 --> 01:02:13.775 it gets implemented
NOTE Confidence: 0.97084194

01:02:14.155 --> 01:02:15.595 in a different situation, so
NOTE Confidence: 0.97084194

01:02:15.595 --> 01:02:16.875 you actually don't have an
NOTE Confidence: 0.97084194

01:02:16.875 --> 01:02:17.375 evaluation

NOTE Confidence: 0.99714833
01:02:17.994 --> 01:02:19.755 of the performance in your
NOTE Confidence: 0.99714833
01:02:19.755 --> 01:02:20.255 setting.
NOTE Confidence: 0.99825084
01:02:20.635 --> 01:02:21.855 So I think that clinicians
NOTE Confidence: 0.99825084
01:02:21.994 --> 01:02:23.214 could demand this
NOTE Confidence: 0.99161834
01:02:23.515 --> 01:02:24.635 and say that they won't
NOTE Confidence: 0.99161834
01:02:24.635 --> 01:02:25.915 use something unless it has
NOTE Confidence: 0.99161834
01:02:25.915 --> 01:02:26.655 been evaluated
NOTE Confidence: 0.94421124
01:02:27.115 --> 01:02:28.395 in their setting, in their
NOTE Confidence: 0.94421124
01:02:28.395 --> 01:02:29.510 health care system,
NOTE Confidence: 0.9916929
01:02:30.850 --> 01:02:32.230 because they don't have assurances
NOTE Confidence: 0.9916929
01:02:32.450 --> 01:02:33.810 that someone's got their back
NOTE Confidence: 0.9916929
01:02:33.810 --> 01:02:35.090 on these on these,
NOTE Confidence: 0.97041476
01:02:35.970 --> 01:02:37.650 diagnoses or decisions that are
NOTE Confidence: 0.97041476
01:02:37.650 --> 01:02:39.250 being made. Yeah. I think
NOTE Confidence: 0.97041476
01:02:39.250 --> 01:02:39.750 that,
NOTE Confidence: 0.99389464

01:02:40.050 --> 01:02:41.650 that's a general principle. I
NOTE Confidence: 0.99389464

01:02:41.650 --> 01:02:42.850 think that many of us
NOTE Confidence: 0.99389464

01:02:42.850 --> 01:02:44.630 would apply when we're taking
NOTE Confidence: 0.9992561

01:02:44.985 --> 01:02:46.025 when we're trying to do
NOTE Confidence: 0.9992561

01:02:46.025 --> 01:02:47.305 a silent validation of an
NOTE Confidence: 0.9992561

01:02:47.305 --> 01:02:47.805 algorithm
NOTE Confidence: 0.97560674

01:02:48.105 --> 01:02:49.145 for which the answer is
NOTE Confidence: 0.97560674

01:02:49.145 --> 01:02:50.265 readily apparent. But some of
NOTE Confidence: 0.97560674

01:02:50.265 --> 01:02:52.185 these algorithms are your risk
NOTE Confidence: 0.97560674

01:02:52.185 --> 01:02:53.565 of x in five years.
NOTE Confidence: 0.9410745

01:02:54.025 --> 01:02:55.325 And so it becomes,
NOTE Confidence: 0.9725266

01:02:56.105 --> 01:02:57.645 just technically unfeasible
NOTE Confidence: 0.9982828

01:02:58.670 --> 01:03:00.190 to wait five years before
NOTE Confidence: 0.9982828

01:03:00.190 --> 01:03:01.650 deciding whether or not to
NOTE Confidence: 0.9982828

01:03:01.790 --> 01:03:03.070 release a tool like that.
NOTE Confidence: 0.9982828

01:03:03.070 --> 01:03:03.570 So

NOTE Confidence: 0.97525483

01:03:04.110 --> 01:03:04.830 I think it's just a

NOTE Confidence: 0.97525483

01:03:04.910 --> 01:03:05.630 I think it's gonna be

NOTE Confidence: 0.97525483

01:03:05.630 --> 01:03:06.290 an increasingly,

NOTE Confidence: 0.99707943

01:03:06.910 --> 01:03:08.930 challenging moral dilemma for physicians.

NOTE Confidence: 0.99707943

01:03:08.990 --> 01:03:10.670 Do do I override the

NOTE Confidence: 0.99707943

01:03:10.670 --> 01:03:11.170 model

NOTE Confidence: 0.9899377

01:03:11.835 --> 01:03:13.275 and face the risk of

NOTE Confidence: 0.9899377

01:03:13.275 --> 01:03:14.635 harming my patient because the

NOTE Confidence: 0.9899377

01:03:14.635 --> 01:03:16.635 model actually knows better? Do

NOTE Confidence: 0.9899377

01:03:16.635 --> 01:03:18.715 I adhere you know, defer

NOTE Confidence: 0.9899377

01:03:18.715 --> 01:03:20.234 to the model? And how

NOTE Confidence: 0.9899377

01:03:20.234 --> 01:03:21.755 do I create a system

NOTE Confidence: 0.9899377

01:03:21.755 --> 01:03:22.415 of accountability

NOTE Confidence: 0.9939343

01:03:23.275 --> 01:03:24.474 to ensure that as I

NOTE Confidence: 0.9939343

01:03:24.474 --> 01:03:25.994 follow that patient over time,

NOTE Confidence: 0.9939343

01:03:25.994 --> 01:03:26.895 I can record
NOTE Confidence: 0.95103145

01:03:28.050 --> 01:03:29.250 whether or not my patient
NOTE Confidence: 0.95103145

01:03:29.250 --> 01:03:30.690 benefited from that experience and
NOTE Confidence: 0.95103145

01:03:30.690 --> 01:03:32.050 have that aggregated at some
NOTE Confidence: 0.95103145

01:03:32.050 --> 01:03:33.410 level. So thank you. I
NOTE Confidence: 0.95103145

01:03:33.410 --> 01:03:34.210 mean, I think that sort
NOTE Confidence: 0.95103145

01:03:34.210 --> 01:03:35.650 of assumes this sense of
NOTE Confidence: 0.95103145

01:03:35.650 --> 01:03:36.150 inevitability
NOTE Confidence: 0.952035

01:03:36.530 --> 01:03:37.570 that we must use the
NOTE Confidence: 0.952035

01:03:37.570 --> 01:03:39.330 model because it's new and
NOTE Confidence: 0.952035

01:03:39.330 --> 01:03:40.290 it came out, and there
NOTE Confidence: 0.952035

01:03:40.290 --> 01:03:40.930 it is.
NOTE Confidence: 0.998682

01:03:41.730 --> 01:03:43.010 I mean, other people have
NOTE Confidence: 0.9913139

01:03:43.785 --> 01:03:45.224 I mean, I understand this
NOTE Confidence: 0.9913139

01:03:45.224 --> 01:03:46.744 this dilemma of having to
NOTE Confidence: 0.9913139

01:03:46.744 --> 01:03:48.025 wait five years to find

NOTE Confidence: 0.9913139
01:03:48.025 --> 01:03:49.565 out whether it's right. But,
NOTE Confidence: 0.9913139
01:03:49.625 --> 01:03:50.585 I mean, we don't do
NOTE Confidence: 0.9913139
01:03:50.585 --> 01:03:51.785 that with other kinds of
NOTE Confidence: 0.9913139
01:03:51.785 --> 01:03:52.605 health interventions.
NOTE Confidence: 0.9702318
01:03:52.905 --> 01:03:54.265 We we wait the five
NOTE Confidence: 0.9702318
01:03:54.265 --> 01:03:55.565 years. Right? I mean,
NOTE Confidence: 0.9940503
01:03:56.835 --> 01:03:57.335 or
NOTE Confidence: 0.9910704
01:03:58.520 --> 01:04:00.520 maybe there's ways of running
NOTE Confidence: 0.9910704
01:04:00.520 --> 01:04:01.960 it in parallel as a
NOTE Confidence: 0.9910704
01:04:01.960 --> 01:04:04.040 shadow system with other things
NOTE Confidence: 0.9910704
01:04:04.040 --> 01:04:05.500 that have more transparency,
NOTE Confidence: 0.99355716
01:04:06.840 --> 01:04:08.859 while you wait and evaluate.
NOTE Confidence: 0.9076372
01:04:10.205 --> 01:04:11.725 I think it's it may
NOTE Confidence: 0.9076372
01:04:11.725 --> 01:04:12.765 be a I I I
NOTE Confidence: 0.9076372
01:04:12.765 --> 01:04:14.125 am I get the feeling
NOTE Confidence: 0.9076372

01:04:14.125 --> 01:04:14.525 that,
NOTE Confidence: 0.90529704

01:04:17.325 --> 01:04:18.525 I get uneasy with this
NOTE Confidence: 0.90529704

01:04:18.525 --> 01:04:19.585 sense of inevitability.
NOTE Confidence: 0.9996656

01:04:21.805 --> 01:04:22.625 Thank you.
NOTE Confidence: 0.9883534

01:04:26.510 --> 01:04:27.630 I think it was, the
NOTE Confidence: 0.9883534

01:04:27.630 --> 01:04:29.090 senate late senator,
NOTE Confidence: 0.905002

01:04:30.030 --> 01:04:31.790 Everett Dirksen, who said,
NOTE Confidence: 0.96446776

01:04:32.750 --> 01:04:34.670 a billion here, a billion
NOTE Confidence: 0.96446776

01:04:34.670 --> 01:04:36.270 dollars there. Pretty soon, you're
NOTE Confidence: 0.96446776

01:04:36.270 --> 01:04:37.490 talking real money.
NOTE Confidence: 0.95454067

01:04:38.775 --> 01:04:40.315 When you alluded to,
NOTE Confidence: 0.9994718

01:04:41.815 --> 01:04:43.194 some of the disparities
NOTE Confidence: 0.99586636

01:04:43.494 --> 01:04:44.474 that are occurring
NOTE Confidence: 0.96736187

01:04:45.335 --> 01:04:47.414 because of AI, you alluded
NOTE Confidence: 0.96736187

01:04:47.414 --> 01:04:48.234 to energy
NOTE Confidence: 0.954666

01:04:49.174 --> 01:04:49.914 and water.

NOTE Confidence: 0.9988531
01:04:50.880 --> 01:04:51.619 And I
NOTE Confidence: 0.87691325
01:04:52.559 --> 01:04:54.319 had only recently begun to
NOTE Confidence: 0.87691325
01:04:54.319 --> 01:04:56.019 use an AI program,
NOTE Confidence: 0.95626014
01:04:57.039 --> 01:04:58.559 to answer some questions in
NOTE Confidence: 0.95626014
01:04:58.559 --> 01:05:00.240 medicine, and and I've only
NOTE Confidence: 0.95626014
01:05:00.240 --> 01:05:01.779 recently become aware
NOTE Confidence: 0.9962578
01:05:02.319 --> 01:05:04.720 that I'm inserting myself into
NOTE Confidence: 0.9962578
01:05:04.720 --> 01:05:05.380 a system
NOTE Confidence: 0.9997228
01:05:06.055 --> 01:05:06.955 that is consuming
NOTE Confidence: 0.95321625
01:05:07.495 --> 01:05:09.835 a huge amount of energy.
NOTE Confidence: 0.9976778
01:05:10.455 --> 01:05:11.595 And that the effects
NOTE Confidence: 0.9997937
01:05:12.055 --> 01:05:12.555 of
NOTE Confidence: 0.9996346
01:05:13.015 --> 01:05:13.515 AI
NOTE Confidence: 0.9842359
01:05:14.055 --> 01:05:15.515 are likely to be equivalent
NOTE Confidence: 0.9842359
01:05:15.655 --> 01:05:16.855 to the invention of the
NOTE Confidence: 0.9842359

01:05:16.855 --> 01:05:19.059 internal combustion engine on the

NOTE Confidence: 0.9842359

01:05:19.059 --> 01:05:21.140 consumption of energy, only it'll

NOTE Confidence: 0.9842359

01:05:21.140 --> 01:05:23.559 occur much, much more rapidly.

NOTE Confidence: 0.9842359

01:05:23.619 --> 01:05:25.319 It is occurring very rapidly.

NOTE Confidence: 0.99698323

01:05:26.339 --> 01:05:27.380 I would like to hear

NOTE Confidence: 0.99698323

01:05:27.380 --> 01:05:29.480 your thoughts about that disparity

NOTE Confidence: 0.42618436

01:05:30.420 --> 01:05:30.920 because

NOTE Confidence: 0.9997608

01:05:31.565 --> 01:05:32.925 when energy has to go

NOTE Confidence: 0.9997608

01:05:32.925 --> 01:05:33.425 into

NOTE Confidence: 0.99820256

01:05:33.885 --> 01:05:34.385 this,

NOTE Confidence: 0.9989916

01:05:35.005 --> 01:05:36.545 it's gonna be taken away

NOTE Confidence: 0.9998104

01:05:36.845 --> 01:05:38.065 from someone else

NOTE Confidence: 0.9651114

01:05:38.445 --> 01:05:40.045 because there isn't enough energy

NOTE Confidence: 0.9651114

01:05:40.045 --> 01:05:41.005 to go around at the

NOTE Confidence: 0.9651114

01:05:41.005 --> 01:05:42.285 rate we're going. At least,

NOTE Confidence: 0.9651114

01:05:42.285 --> 01:05:43.585 I don't think there is.

NOTE Confidence: 0.9935804
01:05:45.240 --> 01:05:47.480 Well yeah. So I'm not
NOTE Confidence: 0.9935804
01:05:47.480 --> 01:05:49.480 an expert on, you know,
NOTE Confidence: 0.9935804
01:05:49.480 --> 01:05:51.240 power systems, but I do
NOTE Confidence: 0.9935804
01:05:51.240 --> 01:05:52.060 think that
NOTE Confidence: 0.9478795
01:05:57.385 --> 01:05:58.525 it's something that
NOTE Confidence: 0.87192464
01:06:00.265 --> 01:06:01.485 we should all consider,
NOTE Confidence: 0.99811965
01:06:03.225 --> 01:06:04.985 because people can vote with
NOTE Confidence: 0.99811965
01:06:04.985 --> 01:06:06.925 their feet and not use
NOTE Confidence: 0.99958104
01:06:07.465 --> 01:06:07.965 technologies
NOTE Confidence: 0.99985933
01:06:08.265 --> 01:06:09.565 that they feel are
NOTE Confidence: 0.5980459
01:06:10.425 --> 01:06:10.925 detrimental
NOTE Confidence: 0.9559577
01:06:12.200 --> 01:06:14.200 because of perhaps overuse of
NOTE Confidence: 0.9559577
01:06:14.200 --> 01:06:15.180 power and water.
NOTE Confidence: 0.8812196
01:06:17.079 --> 01:06:17.579 Different
NOTE Confidence: 0.9814589
01:06:19.960 --> 01:06:20.460 communities
NOTE Confidence: 0.8291661

01:06:20.760 --> 01:06:22.779 who are faced with, thanks,
NOTE Confidence: 0.86092603

01:06:23.079 --> 01:06:24.140 who are faced with
NOTE Confidence: 0.95925134

01:06:25.515 --> 01:06:26.714 loss of their water because
NOTE Confidence: 0.95925134

01:06:26.714 --> 01:06:28.655 of data centers moving in
NOTE Confidence: 0.95925134

01:06:28.875 --> 01:06:30.734 are are able to block
NOTE Confidence: 0.98137456

01:06:31.115 --> 01:06:32.555 the building of data centers
NOTE Confidence: 0.98137456

01:06:32.555 --> 01:06:34.095 in their in their neighborhoods,
NOTE Confidence: 0.9970465

01:06:34.795 --> 01:06:35.694 because of
NOTE Confidence: 0.81781936

01:06:37.835 --> 01:06:38.335 sorry.
NOTE Confidence: 0.9486162

01:06:40.960 --> 01:06:41.460 Thanks.
NOTE Confidence: 0.9729549

01:06:44.000 --> 01:06:44.500 So
NOTE Confidence: 0.9983299

01:06:44.800 --> 01:06:45.920 it may just be that
NOTE Confidence: 0.9983299

01:06:45.920 --> 01:06:46.880 this is something that can
NOTE Confidence: 0.9983299

01:06:46.880 --> 01:06:47.920 only be dealt with at
NOTE Confidence: 0.9983299

01:06:47.920 --> 01:06:48.980 the political level
NOTE Confidence: 0.9821437

01:06:49.600 --> 01:06:51.200 because it's so big. I

NOTE Confidence: 0.9821437
01:06:51.200 --> 01:06:52.100 mean, it's really
NOTE Confidence: 0.99725777
01:06:52.480 --> 01:06:53.840 out of the hands of
NOTE Confidence: 0.99725777
01:06:53.840 --> 01:06:54.340 of
NOTE Confidence: 0.98788476
01:06:54.765 --> 01:06:56.924 individual physicians or even health
NOTE Confidence: 0.98788476
01:06:56.924 --> 01:06:58.684 systems. These are these are
NOTE Confidence: 0.98788476
01:06:58.684 --> 01:06:59.744 much bigger questions
NOTE Confidence: 0.96158034
01:07:00.765 --> 01:07:02.145 about how to use resources.
NOTE Confidence: 0.96158034
01:07:02.285 --> 01:07:02.785 And
NOTE Confidence: 0.9947943
01:07:05.085 --> 01:07:06.224 Yes. Thank you.
NOTE Confidence: 0.9630615
01:07:11.310 --> 01:07:12.750 Thank you, doctor Cho, for
NOTE Confidence: 0.9630615
01:07:12.750 --> 01:07:13.250 your
NOTE Confidence: 0.9666431
01:07:13.790 --> 01:07:14.770 phenomenal presentation,
NOTE Confidence: 0.98162675
01:07:16.670 --> 01:07:17.790 in an area on the
NOTE Confidence: 0.98162675
01:07:17.790 --> 01:07:19.470 subject that we really need
NOTE Confidence: 0.98162675
01:07:19.470 --> 01:07:20.609 to focus on.
NOTE Confidence: 0.99189526

01:07:21.385 --> 01:07:22.745 But my question got to
NOTE Confidence: 0.99189526

01:07:22.745 --> 01:07:23.945 do with something much more
NOTE Confidence: 0.99189526

01:07:23.945 --> 01:07:24.445 fundamental.
NOTE Confidence: 0.9976667

01:07:27.385 --> 01:07:28.605 Quite some time ago,
NOTE Confidence: 0.9270133

01:07:29.465 --> 01:07:30.205 our students,
NOTE Confidence: 0.99971575

01:07:31.385 --> 01:07:31.885 particularly
NOTE Confidence: 0.7796625

01:07:32.585 --> 01:07:33.885 our which is our
NOTE Confidence: 0.8304702

01:07:34.470 --> 01:07:36.170 being Yale School of Medicine,
NOTE Confidence: 0.9002949

01:07:36.869 --> 01:07:38.730 they are our priceless possession.
NOTE Confidence: 0.9974964

01:07:40.310 --> 01:07:42.970 They gave up reading textbooks.
NOTE Confidence: 0.9286853

01:07:46.914 --> 01:07:49.015 The latest version of Harrison
NOTE Confidence: 0.9286853

01:07:49.075 --> 01:07:50.694 is on my iPhone,
NOTE Confidence: 0.8795255

01:07:51.875 --> 01:07:53.335 Kindle app, etcetera,
NOTE Confidence: 0.874243

01:07:53.795 --> 01:07:54.295 etcetera.
NOTE Confidence: 0.98299325

01:07:54.755 --> 01:07:55.875 But they don't read it
NOTE Confidence: 0.98299325

01:07:56.115 --> 01:07:57.494 read textbooks anymore.

NOTE Confidence: 0.9739043
01:07:58.755 --> 01:08:00.275 We caught on to that
NOTE Confidence: 0.9739043
01:08:00.275 --> 01:08:01.255 a little late.
NOTE Confidence: 0.98752236
01:08:02.380 --> 01:08:03.820 They were reading all kinds
NOTE Confidence: 0.98752236
01:08:03.820 --> 01:08:04.960 of things and,
NOTE Confidence: 0.9403904
01:08:06.060 --> 01:08:06.880 mostly online
NOTE Confidence: 0.8323792
01:08:08.220 --> 01:08:08.720 and
NOTE Confidence: 0.925488
01:08:09.100 --> 01:08:09.600 some,
NOTE Confidence: 0.95337456
01:08:11.180 --> 01:08:11.920 on paper.
NOTE Confidence: 0.99777293
01:08:13.420 --> 01:08:14.640 And I think we
NOTE Confidence: 0.9697143
01:08:16.305 --> 01:08:18.465 really, therefore, didn't know where
NOTE Confidence: 0.9697143
01:08:18.465 --> 01:08:19.604 they were going with
NOTE Confidence: 0.9618508
01:08:20.625 --> 01:08:21.825 it, whether they were in
NOTE Confidence: 0.9618508
01:08:21.825 --> 01:08:22.805 the right direction
NOTE Confidence: 0.99771875
01:08:23.185 --> 01:08:23.925 or not.
NOTE Confidence: 0.9995937
01:08:25.505 --> 01:08:27.045 I think it's something
NOTE Confidence: 0.9999132

01:08:27.585 --> 01:08:28.085 urgent
NOTE Confidence: 0.9997985

01:08:28.900 --> 01:08:30.180 that we need to focus
NOTE Confidence: 0.9997985

01:08:30.180 --> 01:08:30.680 on
NOTE Confidence: 0.9287004

01:08:31.460 --> 01:08:33.140 to introduce even while we
NOTE Confidence: 0.9287004

01:08:33.140 --> 01:08:34.660 are still struggling with the
NOTE Confidence: 0.9287004

01:08:34.660 --> 01:08:35.160 methodology
NOTE Confidence: 0.8921027

01:08:35.460 --> 01:08:37.800 of developing teaching tools, etcetera,
NOTE Confidence: 0.8921027

01:08:37.940 --> 01:08:38.440 etcetera,
NOTE Confidence: 0.8398387

01:08:39.780 --> 01:08:41.960 our students are already reusing
NOTE Confidence: 0.8398387

01:08:42.260 --> 01:08:42.760 AI
NOTE Confidence: 0.9544385

01:08:43.285 --> 01:08:44.665 in in different ways.
NOTE Confidence: 0.78954476

01:08:45.604 --> 01:08:46.985 That how do you
NOTE Confidence: 0.9984963

01:08:48.005 --> 01:08:48.505 suggest
NOTE Confidence: 0.90945655

01:08:49.765 --> 01:08:50.745 in the curriculum,
NOTE Confidence: 0.9740722

01:08:51.765 --> 01:08:52.585 the preclinical
NOTE Confidence: 0.99869424

01:08:53.125 --> 01:08:54.185 student curriculum

NOTE Confidence: 0.9001638

01:08:54.564 --> 01:08:55.625 at that level,

NOTE Confidence: 0.99346113

01:08:57.510 --> 01:08:58.809 formally introducing

NOTE Confidence: 0.9969285

01:08:59.189 --> 01:09:00.729 and directing our students

NOTE Confidence: 0.99954647

01:09:01.909 --> 01:09:03.609 in the use of

NOTE Confidence: 0.9998795

01:09:03.909 --> 01:09:04.409 AI

NOTE Confidence: 0.7754585

01:09:05.270 --> 01:09:06.329 when they should,

NOTE Confidence: 0.98709476

01:09:06.790 --> 01:09:08.309 where they should go, for

NOTE Confidence: 0.98709476

01:09:08.309 --> 01:09:09.530 what kind of information,

NOTE Confidence: 0.9692809

01:09:10.975 --> 01:09:12.015 what they should do once

NOTE Confidence: 0.9692809

01:09:12.015 --> 01:09:14.094 they become clinical students. Unlike

NOTE Confidence: 0.9692809

01:09:14.094 --> 01:09:15.135 you and me, they didn't

NOTE Confidence: 0.9692809

01:09:15.135 --> 01:09:16.755 spend two years in preclinical.

NOTE Confidence: 0.9692809

01:09:16.895 --> 01:09:17.935 They spent only a year

NOTE Confidence: 0.9692809

01:09:17.935 --> 01:09:18.915 and a half now

NOTE Confidence: 0.9749569

01:09:20.495 --> 01:09:21.795 before they move on.

NOTE Confidence: 0.9935199

01:09:22.495 --> 01:09:24.354 So that's what I seek.
NOTE Confidence: 0.9768041

01:09:25.020 --> 01:09:26.059 I think we all seek
NOTE Confidence: 0.9768041

01:09:26.059 --> 01:09:27.979 your advice for. At what
NOTE Confidence: 0.9768041

01:09:27.979 --> 01:09:29.280 stage, how,
NOTE Confidence: 0.93612766

01:09:29.820 --> 01:09:31.179 and in what fashion should
NOTE Confidence: 0.93612766

01:09:31.179 --> 01:09:33.260 that curriculum be designed? Because
NOTE Confidence: 0.93612766

01:09:33.260 --> 01:09:34.639 we missed the bus once.
NOTE Confidence: 0.99918747

01:09:35.500 --> 01:09:37.119 We can't miss this one.
NOTE Confidence: 0.99877554

01:09:38.025 --> 01:09:38.765 Thank you.
NOTE Confidence: 0.99888957

01:09:40.505 --> 01:09:41.005 Well,
NOTE Confidence: 0.99885213

01:09:41.385 --> 01:09:41.885 I
NOTE Confidence: 0.9910746

01:09:42.265 --> 01:09:43.385 can't give you an answer
NOTE Confidence: 0.9910746

01:09:43.385 --> 01:09:44.265 to that question. I think
NOTE Confidence: 0.9910746

01:09:44.265 --> 01:09:45.725 it's something that all educators
NOTE Confidence: 0.9910746

01:09:45.785 --> 01:09:47.564 are struggling with. But,
NOTE Confidence: 0.9769947

01:09:50.410 --> 01:09:51.450 you know, there's lots of

NOTE Confidence: 0.9769947
01:09:51.450 --> 01:09:53.229 different kinds of AI tools
NOTE Confidence: 0.9769947
01:09:53.370 --> 01:09:55.130 out there. So, you know,
NOTE Confidence: 0.9769947
01:09:55.130 --> 01:09:56.010 there's going to have to
NOTE Confidence: 0.9769947
01:09:56.010 --> 01:09:57.130 be a lot of different
NOTE Confidence: 0.9769947
01:09:57.130 --> 01:09:58.110 kinds of recommendations
NOTE Confidence: 0.983169
01:09:58.490 --> 01:09:59.610 based on the different kinds
NOTE Confidence: 0.983169
01:09:59.610 --> 01:10:01.290 of tools. And these large
NOTE Confidence: 0.983169
01:10:01.290 --> 01:10:02.810 language models that we're looking
NOTE Confidence: 0.983169
01:10:02.810 --> 01:10:03.310 at
NOTE Confidence: 0.91561604
01:10:04.090 --> 01:10:04.670 are probably
NOTE Confidence: 0.999729
01:10:05.505 --> 01:10:06.965 really only good for
NOTE Confidence: 0.97245437
01:10:07.425 --> 01:10:09.025 a very small number of
NOTE Confidence: 0.97245437
01:10:09.025 --> 01:10:09.525 things,
NOTE Confidence: 0.9616233
01:10:09.825 --> 01:10:11.425 really, even though they're posed
NOTE Confidence: 0.9616233
01:10:11.425 --> 01:10:12.785 as general tools. They're
NOTE Confidence: 0.97969824

01:10:13.825 --> 01:10:14.865 as as I think of
NOTE Confidence: 0.97969824

01:10:14.865 --> 01:10:15.845 them, they're basically,
NOTE Confidence: 0.97320753

01:10:16.945 --> 01:10:19.045 like autofill on steroids,
NOTE Confidence: 0.9135908

01:10:20.670 --> 01:10:21.410 which isn't
NOTE Confidence: 0.9617295

01:10:21.790 --> 01:10:22.290 necessarily,
NOTE Confidence: 0.9972804

01:10:23.790 --> 01:10:24.989 you know, just predicting the
NOTE Confidence: 0.9972804

01:10:24.989 --> 01:10:26.770 next word based on how,
NOTE Confidence: 0.9845097

01:10:27.310 --> 01:10:28.989 you know, sentences have occurred
NOTE Confidence: 0.9845097

01:10:28.989 --> 01:10:30.270 in the past is not
NOTE Confidence: 0.9845097

01:10:30.270 --> 01:10:30.770 really,
NOTE Confidence: 0.9907097

01:10:31.390 --> 01:10:32.750 very useful for a lot
NOTE Confidence: 0.9907097

01:10:32.750 --> 01:10:34.425 of different things that students
NOTE Confidence: 0.9907097

01:10:34.425 --> 01:10:35.225 need to do, and it's
NOTE Confidence: 0.9907097

01:10:35.225 --> 01:10:36.425 certainly not very good for
NOTE Confidence: 0.9907097

01:10:36.425 --> 01:10:37.885 critical thinking skills,
NOTE Confidence: 0.9866887

01:10:38.505 --> 01:10:39.725 development. So,

NOTE Confidence: 0.9735466

01:10:41.225 --> 01:10:42.425 I mean, I've been struggling

NOTE Confidence: 0.9735466

01:10:42.425 --> 01:10:43.865 with this question myself for

NOTE Confidence: 0.9735466

01:10:43.865 --> 01:10:45.545 my own teaching of, an

NOTE Confidence: 0.9735466

01:10:45.545 --> 01:10:46.525 ethics course.

NOTE Confidence: 0.99774927

01:10:46.985 --> 01:10:47.485 And

NOTE Confidence: 0.99959034

01:10:48.360 --> 01:10:49.479 one of the ideas that

NOTE Confidence: 0.99959034

01:10:49.479 --> 01:10:50.860 I've had is to

NOTE Confidence: 0.7877792

01:10:52.360 --> 01:10:53.180 have students

NOTE Confidence: 0.83575994

01:10:53.640 --> 01:10:55.720 develop prompts to ask CHAT

NOTE Confidence: 0.83575994

01:10:55.720 --> 01:10:56.220 GPT

NOTE Confidence: 0.9544573

01:10:56.680 --> 01:10:57.420 certain things,

NOTE Confidence: 0.99752367

01:10:58.520 --> 01:11:00.300 and then critique the responses

NOTE Confidence: 0.99104536

01:11:01.175 --> 01:11:02.615 so that I hope that

NOTE Confidence: 0.99104536

01:11:02.615 --> 01:11:04.555 they learn from independent sources

NOTE Confidence: 0.86811554

01:11:04.935 --> 01:11:06.215 about the topic that they're

NOTE Confidence: 0.86811554

01:11:06.215 --> 01:11:08.075 asking chat g p t.
NOTE Confidence: 0.93020153

01:11:09.175 --> 01:11:10.535 But I think it's a
NOTE Confidence: 0.93020153

01:11:10.535 --> 01:11:11.035 very
NOTE Confidence: 0.99887955

01:11:11.415 --> 01:11:13.515 difficult question. It's also
NOTE Confidence: 0.9990873

01:11:14.370 --> 01:11:16.370 necessary to train people to
NOTE Confidence: 0.9990873

01:11:16.370 --> 01:11:16.870 understand
NOTE Confidence: 0.9749739

01:11:17.570 --> 01:11:19.010 when they're looking at something
NOTE Confidence: 0.9749739

01:11:19.010 --> 01:11:20.689 fake and something real because
NOTE Confidence: 0.9749739

01:11:20.689 --> 01:11:22.610 that's increasingly difficult to tell
NOTE Confidence: 0.9749739

01:11:22.610 --> 01:11:23.670 the difference between.
NOTE Confidence: 0.78571403

01:11:24.610 --> 01:11:25.350 And so
NOTE Confidence: 0.9995091

01:11:26.735 --> 01:11:27.875 I think that's another
NOTE Confidence: 0.9992481

01:11:28.494 --> 01:11:28.994 very
NOTE Confidence: 0.97691727

01:11:30.414 --> 01:11:32.655 difficult and disturbing task that
NOTE Confidence: 0.97691727

01:11:32.655 --> 01:11:33.875 we now have to face,
NOTE Confidence: 0.9986338

01:11:34.255 --> 01:11:35.135 that we didn't have to

NOTE Confidence: 0.9986338
01:11:35.135 --> 01:11:35.954 face before.
NOTE Confidence: 0.8959158
01:11:36.414 --> 01:11:38.275 But just finally, on,
NOTE Confidence: 0.9981542
01:11:38.735 --> 01:11:39.934 on the other side, I
NOTE Confidence: 0.9981542
01:11:39.934 --> 01:11:40.675 think that
NOTE Confidence: 0.99190605
01:11:41.479 --> 01:11:42.920 some of the trainees that
NOTE Confidence: 0.99190605
01:11:42.920 --> 01:11:43.820 I work with,
NOTE Confidence: 0.9806281
01:11:44.479 --> 01:11:46.280 have very quickly picked up
NOTE Confidence: 0.9806281
01:11:46.280 --> 01:11:46.780 on,
NOTE Confidence: 0.99322605
01:11:47.960 --> 01:11:49.960 prompt engineering skills, which I
NOTE Confidence: 0.99322605
01:11:49.960 --> 01:11:51.260 do not have myself.
NOTE Confidence: 0.85315967
01:11:51.719 --> 01:11:52.199 And,
NOTE Confidence: 0.9725182
01:11:53.159 --> 01:11:54.679 you can get much better
NOTE Confidence: 0.9725182
01:11:54.679 --> 01:11:55.179 results,
NOTE Confidence: 0.94705695
01:11:55.965 --> 01:11:57.885 in certain kinds of tasks,
NOTE Confidence: 0.94705695
01:11:57.885 --> 01:11:59.185 like writing tasks,
NOTE Confidence: 0.99868906

01:11:59.725 --> 01:12:01.485 if you are very good
NOTE Confidence: 0.99868906

01:12:01.485 --> 01:12:03.505 at writing very good prompts.
NOTE Confidence: 0.9688364

01:12:04.364 --> 01:12:05.564 Again, I'm not one of
NOTE Confidence: 0.9688364

01:12:05.564 --> 01:12:07.025 those people. But,
NOTE Confidence: 0.95369357

01:12:08.870 --> 01:12:09.750 you know, I think it
NOTE Confidence: 0.95369357

01:12:09.750 --> 01:12:10.650 means teaching
NOTE Confidence: 0.9211124

01:12:11.270 --> 01:12:13.430 teaching students or allowing people
NOTE Confidence: 0.9211124

01:12:13.430 --> 01:12:14.890 to learn not by themselves,
NOTE Confidence: 0.9986498

01:12:16.070 --> 01:12:18.010 what the limitations of these
NOTE Confidence: 0.9986498

01:12:18.070 --> 01:12:20.250 kinds of AI tools are.
NOTE Confidence: 0.70587194

01:12:23.704 --> 01:12:24.204 Can
NOTE Confidence: 0.8947761

01:12:26.104 --> 01:12:27.784 I just interject and and
NOTE Confidence: 0.8947761

01:12:27.784 --> 01:12:29.165 ask in in our
NOTE Confidence: 0.8219142

01:12:29.784 --> 01:12:30.764 professional responsibility
NOTE Confidence: 0.96279025

01:12:31.145 --> 01:12:31.625 course,
NOTE Confidence: 0.93742025

01:12:32.104 --> 01:12:33.784 led by Dave Rosenthal and

NOTE Confidence: 0.93742025

01:12:33.784 --> 01:12:35.545 Karen Jovanik, who I think

NOTE Confidence: 0.93742025

01:12:35.545 --> 01:12:37.005 were, in the audience,

NOTE Confidence: 0.92972773

01:12:38.630 --> 01:12:40.410 Within our small group, we

NOTE Confidence: 0.9176252

01:12:41.270 --> 01:12:42.390 we had a a vote

NOTE Confidence: 0.9176252

01:12:42.390 --> 01:12:44.330 about whether to exclude devices

NOTE Confidence: 0.9176252

01:12:44.630 --> 01:12:46.310 from the the, small group

NOTE Confidence: 0.9176252

01:12:46.310 --> 01:12:47.510 classroom and the and the

NOTE Confidence: 0.9176252

01:12:47.510 --> 01:12:49.350 students overwhelmingly voted in favor

NOTE Confidence: 0.9176252

01:12:49.350 --> 01:12:50.470 of removing devices? And I

NOTE Confidence: 0.9176252

01:12:50.470 --> 01:12:52.250 think it's it's been a,

NOTE Confidence: 0.9884563

01:12:53.205 --> 01:12:54.485 positive experience thus far. This

NOTE Confidence: 0.9884563

01:12:54.485 --> 01:12:55.205 is the first year that

NOTE Confidence: 0.9884563

01:12:55.205 --> 01:12:56.325 we we had this this

NOTE Confidence: 0.9884563

01:12:56.325 --> 01:12:56.825 kind

NOTE Confidence: 0.99788177

01:12:57.285 --> 01:12:57.945 of consideration.

NOTE Confidence: 0.90147066

01:12:58.725 --> 01:12:59.705 I'm I'm curious,
NOTE Confidence: 0.9919868

01:13:00.085 --> 01:13:00.725 you know, on the on
NOTE Confidence: 0.9919868

01:13:00.725 --> 01:13:01.545 the other hand,
NOTE Confidence: 0.9958088

01:13:02.245 --> 01:13:03.845 we're not engaging with with
NOTE Confidence: 0.9958088

01:13:03.845 --> 01:13:05.285 with AI. We're we're, you
NOTE Confidence: 0.9958088

01:13:05.285 --> 01:13:06.104 know, intentionally
NOTE Confidence: 0.9502941

01:13:07.189 --> 01:13:08.350 having a a very,
NOTE Confidence: 0.9848462

01:13:08.790 --> 01:13:09.610 low tech,
NOTE Confidence: 0.9982228

01:13:10.150 --> 01:13:10.650 experience.
NOTE Confidence: 0.94100887

01:13:11.910 --> 01:13:12.790 What are your thoughts about
NOTE Confidence: 0.94100887

01:13:12.790 --> 01:13:14.250 that? On the one hand,
NOTE Confidence: 0.99449116

01:13:16.150 --> 01:13:17.270 AI has no role in
NOTE Confidence: 0.99449116

01:13:17.270 --> 01:13:18.390 in the classroom. On the
NOTE Confidence: 0.99449116

01:13:18.390 --> 01:13:20.570 other hand, we're not engaging
NOTE Confidence: 0.99449116

01:13:20.870 --> 01:13:21.370 with
NOTE Confidence: 0.99412954

01:13:22.395 --> 01:13:23.614 critiques of

NOTE Confidence: 0.98510396

01:13:24.314 --> 01:13:26.155 the AI output. We're not

NOTE Confidence: 0.98510396

01:13:26.155 --> 01:13:28.235 engaging with prompt engineering. What

NOTE Confidence: 0.98510396

01:13:28.235 --> 01:13:29.454 are your thoughts about balancing

NOTE Confidence: 0.9966928

01:13:29.994 --> 01:13:30.494 those?

NOTE Confidence: 0.901579

01:13:31.434 --> 01:13:31.934 Well,

NOTE Confidence: 0.95560235

01:13:41.020 --> 01:13:42.460 I you know, given that

NOTE Confidence: 0.95560235

01:13:42.460 --> 01:13:43.840 it's a professional responsibility

NOTE Confidence: 0.998911

01:13:44.219 --> 01:13:45.599 course, I would say that

NOTE Confidence: 0.9712053

01:13:48.765 --> 01:13:49.265 I

NOTE Confidence: 0.98643905

01:13:49.965 --> 01:13:51.344 it may not be necessary

NOTE Confidence: 0.98643905

01:13:51.564 --> 01:13:52.864 to engage with AI,

NOTE Confidence: 0.9920059

01:13:53.405 --> 01:13:54.765 or if you do, only

NOTE Confidence: 0.9920059

01:13:54.765 --> 01:13:55.965 to the extent that it

NOTE Confidence: 0.9920059

01:13:55.965 --> 01:13:57.745 is part of professional responsibility.

NOTE Confidence: 0.9920059

01:13:57.965 --> 01:13:58.864 So if you

NOTE Confidence: 0.97198534

01:13:59.324 --> 01:14:00.844 you could argue that it
NOTE Confidence: 0.97198534

01:14:00.844 --> 01:14:03.550 is now a physician's responsibility
NOTE Confidence: 0.9998462

01:14:03.930 --> 01:14:04.430 to
NOTE Confidence: 0.99986565

01:14:04.970 --> 01:14:05.470 understand
NOTE Confidence: 0.99763566

01:14:06.330 --> 01:14:08.729 limitations of AI, understand how
NOTE Confidence: 0.99763566

01:14:08.729 --> 01:14:09.229 it
NOTE Confidence: 0.99928397

01:14:09.530 --> 01:14:10.670 helps or hinders
NOTE Confidence: 0.9848944

01:14:10.970 --> 01:14:12.890 communication with patients, how it
NOTE Confidence: 0.9848944

01:14:12.890 --> 01:14:14.344 helps or hinders, you know,
NOTE Confidence: 0.9848944

01:14:14.344 --> 01:14:15.725 what are their own responsibilities
NOTE Confidence: 0.9381259

01:14:16.104 --> 01:14:17.625 in using AI in the
NOTE Confidence: 0.9381259

01:14:17.625 --> 01:14:18.604 health care system.
NOTE Confidence: 0.9872961

01:14:19.465 --> 01:14:20.685 So maybe that's
NOTE Confidence: 0.98208714

01:14:21.064 --> 01:14:22.824 one question, but you don't
NOTE Confidence: 0.98208714

01:14:22.824 --> 01:14:24.425 necessarily need to use AI
NOTE Confidence: 0.98208714

01:14:24.425 --> 01:14:25.945 tools or devices in the

NOTE Confidence: 0.98208714

01:14:25.945 --> 01:14:27.725 course to achieve those goals.

NOTE Confidence: 0.98930043

01:14:32.180 --> 01:14:33.540 And that segues, I think,

NOTE Confidence: 0.98930043

01:14:33.540 --> 01:14:34.900 to a part of my

NOTE Confidence: 0.98930043

01:14:34.900 --> 01:14:36.840 question, which is to get,

NOTE Confidence: 0.99889344

01:14:37.540 --> 01:14:39.140 to your point about engaging

NOTE Confidence: 0.99889344

01:14:39.140 --> 01:14:39.640 bioethicists

NOTE Confidence: 0.9707467

01:14:40.180 --> 01:14:41.780 in this and this idea

NOTE Confidence: 0.9707467

01:14:41.780 --> 01:14:43.620 of professional responsibility and the

NOTE Confidence: 0.9707467

01:14:43.620 --> 01:14:44.835 role of AI in that

NOTE Confidence: 0.9707467

01:14:44.835 --> 01:14:46.515 identity. So I am coming

NOTE Confidence: 0.9707467

01:14:46.515 --> 01:14:47.575 from a law school,

NOTE Confidence: 0.984945

01:14:48.115 --> 01:14:49.795 and today's lunch was a

NOTE Confidence: 0.984945

01:14:49.795 --> 01:14:51.314 conversation of what is, if

NOTE Confidence: 0.984945

01:14:51.314 --> 01:14:53.155 there is, the ethical use

NOTE Confidence: 0.984945

01:14:53.155 --> 01:14:55.015 of AI in legal scholarship

NOTE Confidence: 0.984945

01:14:55.155 --> 01:14:57.155 and legal research. And so
NOTE Confidence: 0.984945

01:14:57.155 --> 01:14:58.035 we have a whole bunch
NOTE Confidence: 0.984945

01:14:58.035 --> 01:14:59.575 of researchers in this room.
NOTE Confidence: 0.9998781

01:15:00.060 --> 01:15:00.860 We have a whole bunch
NOTE Confidence: 0.9998781

01:15:00.860 --> 01:15:01.820 of people who want to
NOTE Confidence: 0.9998781

01:15:01.820 --> 01:15:02.320 present
NOTE Confidence: 0.8092982

01:15:03.740 --> 01:15:04.240 ideally
NOTE Confidence: 0.9314983

01:15:04.620 --> 01:15:05.840 original ideas,
NOTE Confidence: 0.9981846

01:15:06.300 --> 01:15:08.320 but to the extent that
NOTE Confidence: 0.9981846

01:15:08.540 --> 01:15:09.920 increased and improved
NOTE Confidence: 0.99941075

01:15:10.300 --> 01:15:11.200 prompt engineering
NOTE Confidence: 0.9944271

01:15:12.525 --> 01:15:14.685 can easily help and write
NOTE Confidence: 0.9944271

01:15:14.685 --> 01:15:17.665 things, revise things, reorganize things,
NOTE Confidence: 0.9842116

01:15:18.045 --> 01:15:20.064 essentially do some virtual workshopping
NOTE Confidence: 0.98700196

01:15:20.925 --> 01:15:21.665 of papers.
NOTE Confidence: 0.9994099

01:15:22.285 --> 01:15:23.645 Do you have a sense

NOTE Confidence: 0.9994099
01:15:23.645 --> 01:15:24.145 of
NOTE Confidence: 0.9094577
01:15:24.840 --> 01:15:26.140 specifically in bioethics,
NOTE Confidence: 0.99969697
01:15:27.000 --> 01:15:28.280 whether or not we need
NOTE Confidence: 0.99969697
01:15:28.280 --> 01:15:29.660 to be having a conversation
NOTE Confidence: 0.99969697
01:15:29.800 --> 01:15:31.000 of the appropriate use of
NOTE Confidence: 0.99969697
01:15:31.000 --> 01:15:31.500 AI
NOTE Confidence: 0.99242663
01:15:32.120 --> 01:15:34.600 in generating the articles we
NOTE Confidence: 0.99242663
01:15:34.600 --> 01:15:36.860 seek to place and review
NOTE Confidence: 0.99242663
01:15:37.000 --> 01:15:37.740 and accept?
NOTE Confidence: 0.9969396
01:15:39.255 --> 01:15:41.655 Yeah. Another hot topic of
NOTE Confidence: 0.9969396
01:15:41.655 --> 01:15:42.155 discussion.
NOTE Confidence: 0.9352468
01:15:43.814 --> 01:15:45.015 I know that the,
NOTE Confidence: 0.85444814
01:15:46.135 --> 01:15:48.075 committee of on publication,
NOTE Confidence: 0.89063007
01:15:48.535 --> 01:15:49.655 ethics, COPE, or you don't
NOTE Confidence: 0.89063007
01:15:49.655 --> 01:15:50.535 know if you're familiar with
NOTE Confidence: 0.89063007

01:15:50.535 --> 01:15:51.195 this group,
NOTE Confidence: 0.9872827

01:15:52.929 --> 01:15:54.630 came out recently with
NOTE Confidence: 0.73483074

01:15:55.330 --> 01:15:55.830 a,
NOTE Confidence: 0.8679653

01:15:56.689 --> 01:15:57.349 a guideline
NOTE Confidence: 0.99923146

01:15:58.130 --> 01:15:58.630 that
NOTE Confidence: 0.9176714

01:15:59.809 --> 01:16:01.270 says that they don't consider
NOTE Confidence: 0.9734724

01:16:01.729 --> 01:16:03.030 AI to be an author.
NOTE Confidence: 0.9734724

01:16:03.329 --> 01:16:04.929 And they would suggest that
NOTE Confidence: 0.9734724

01:16:04.929 --> 01:16:06.949 journals make a statement that
NOTE Confidence: 0.978213

01:16:07.485 --> 01:16:09.165 the their member journals make
NOTE Confidence: 0.978213

01:16:09.165 --> 01:16:10.764 a statement that that AI
NOTE Confidence: 0.978213

01:16:10.764 --> 01:16:11.985 cannot be an author.
NOTE Confidence: 0.97854954

01:16:13.165 --> 01:16:14.045 And I think they have
NOTE Confidence: 0.97854954

01:16:14.045 --> 01:16:15.485 good reasons for that. And
NOTE Confidence: 0.97854954

01:16:15.485 --> 01:16:17.244 that is that, at least
NOTE Confidence: 0.97854954

01:16:17.244 --> 01:16:18.625 as we teach it in

NOTE Confidence: 0.97854954
01:16:18.925 --> 01:16:20.844 our responsible conduct of research
NOTE Confidence: 0.97854954
01:16:20.844 --> 01:16:21.344 course,
NOTE Confidence: 0.9743644
01:16:21.930 --> 01:16:23.370 being an author means that
NOTE Confidence: 0.9743644
01:16:23.370 --> 01:16:24.350 you are accountable,
NOTE Confidence: 0.98209095
01:16:25.290 --> 01:16:26.410 not just for the words
NOTE Confidence: 0.98209095
01:16:26.410 --> 01:16:27.530 that are written, but for
NOTE Confidence: 0.98209095
01:16:27.530 --> 01:16:29.050 everything that went into it
NOTE Confidence: 0.98209095
01:16:29.050 --> 01:16:30.030 and the data
NOTE Confidence: 0.9958307
01:16:30.810 --> 01:16:32.489 collection and all that stuff.
NOTE Confidence: 0.9958307
01:16:32.489 --> 01:16:34.430 Right? I mean, that's what
NOTE Confidence: 0.9958307
01:16:34.489 --> 01:16:35.710 scientific responsibility
NOTE Confidence: 0.989123
01:16:36.505 --> 01:16:37.785 is. It's it's all these
NOTE Confidence: 0.989123
01:16:37.785 --> 01:16:39.465 things, not just the written
NOTE Confidence: 0.989123
01:16:39.465 --> 01:16:39.965 words.
NOTE Confidence: 0.98686135
01:16:40.345 --> 01:16:40.845 And,
NOTE Confidence: 0.9789753

01:16:41.545 --> 01:16:43.725 a chatbot cannot be accountable

NOTE Confidence: 0.9789753

01:16:43.945 --> 01:16:45.785 for anything, and it's especially

NOTE Confidence: 0.9789753

01:16:45.785 --> 01:16:47.225 cannot be accountable for all

NOTE Confidence: 0.9789753

01:16:47.225 --> 01:16:48.125 the things that

NOTE Confidence: 0.9986543

01:16:48.470 --> 01:16:50.150 that happened leading up to

NOTE Confidence: 0.9986543

01:16:50.150 --> 01:16:51.590 the writing. Right? So the

NOTE Confidence: 0.9986543

01:16:51.590 --> 01:16:52.890 writing is not just

NOTE Confidence: 0.9989626

01:16:54.710 --> 01:16:55.689 it's a representation

NOTE Confidence: 0.99312204

01:16:57.590 --> 01:16:59.050 of a lot of work

NOTE Confidence: 0.99312204

01:16:59.189 --> 01:17:00.870 and thought, not just the

NOTE Confidence: 0.99312204

01:17:00.870 --> 01:17:02.410 words themselves. So

NOTE Confidence: 0.99379194

01:17:02.790 --> 01:17:03.450 I think

NOTE Confidence: 0.99939567

01:17:05.145 --> 01:17:06.284 we have to think about

NOTE Confidence: 0.9779994

01:17:07.545 --> 01:17:08.604 things like publications

NOTE Confidence: 0.9993068

01:17:09.064 --> 01:17:11.244 as as just the surface

NOTE Confidence: 0.9795187

01:17:11.784 --> 01:17:12.905 and that there has to

NOTE Confidence: 0.9795187
01:17:12.905 --> 01:17:15.244 be an accountable body underneath
NOTE Confidence: 0.9795187
01:17:15.304 --> 01:17:15.804 it.
NOTE Confidence: 0.9974068
01:17:20.200 --> 01:17:22.040 Thank you, Mildred, for the
NOTE Confidence: 0.9974068
01:17:22.040 --> 01:17:22.860 great talk.
NOTE Confidence: 0.95754
01:17:26.520 --> 01:17:28.440 I wanna zoom in on
NOTE Confidence: 0.95754
01:17:28.440 --> 01:17:29.640 something that you said almost
NOTE Confidence: 0.95754
01:17:29.640 --> 01:17:30.380 in passing.
NOTE Confidence: 0.9856924
01:17:31.095 --> 01:17:31.835 You said,
NOTE Confidence: 0.9919583
01:17:32.455 --> 01:17:33.655 of course, we didn't use
NOTE Confidence: 0.9919583
01:17:33.655 --> 01:17:34.854 the word ethics because we
NOTE Confidence: 0.9919583
01:17:34.854 --> 01:17:36.135 didn't want them to become
NOTE Confidence: 0.9919583
01:17:36.135 --> 01:17:36.635 defensive.
NOTE Confidence: 0.9948748
01:17:38.614 --> 01:17:39.895 And that really caught my
NOTE Confidence: 0.9948748
01:17:39.895 --> 01:17:40.795 attention because
NOTE Confidence: 0.9248392
01:17:41.175 --> 01:17:41.675 bioethicists
NOTE Confidence: 0.96271974

01:17:42.375 --> 01:17:44.135 like us are now, because
NOTE Confidence: 0.96271974

01:17:44.135 --> 01:17:45.415 of the acute interest in
NOTE Confidence: 0.96271974

01:17:45.415 --> 01:17:46.075 this topic,
NOTE Confidence: 0.9715808

01:17:46.880 --> 01:17:48.239 going around the country, sitting
NOTE Confidence: 0.9715808

01:17:48.239 --> 01:17:49.860 on all the panels with
NOTE Confidence: 0.9715808

01:17:50.159 --> 01:17:51.939 developers and CEOs and clinicians
NOTE Confidence: 0.9715808

01:17:52.079 --> 01:17:53.219 and patients. And
NOTE Confidence: 0.99029183

01:17:53.760 --> 01:17:54.960 as soon as I am
NOTE Confidence: 0.99029183

01:17:54.960 --> 01:17:56.239 on the stage wearing the
NOTE Confidence: 0.99029183

01:17:56.239 --> 01:17:56.739 bioethicist
NOTE Confidence: 0.9972303

01:17:57.280 --> 01:17:57.780 hat,
NOTE Confidence: 0.99944377

01:17:58.239 --> 01:17:59.139 the expectation
NOTE Confidence: 0.9819838

01:17:59.760 --> 01:18:00.719 is that I will be
NOTE Confidence: 0.9819838

01:18:00.719 --> 01:18:01.860 the ethics police,
NOTE Confidence: 0.9703957

01:18:02.555 --> 01:18:03.675 that I will be the
NOTE Confidence: 0.9703957

01:18:03.675 --> 01:18:05.915 voice that says, why not,

NOTE Confidence: 0.9703957
01:18:05.915 --> 01:18:06.975 why not yet,
NOTE Confidence: 0.9769987
01:18:08.075 --> 01:18:11.135 concerns, issues, challenges, risks, dangers.
NOTE Confidence: 0.99944985
01:18:11.755 --> 01:18:13.055 I will be the naysayer
NOTE Confidence: 0.9978614
01:18:13.835 --> 01:18:14.655 in the context
NOTE Confidence: 0.98795134
01:18:15.035 --> 01:18:15.695 of mostly
NOTE Confidence: 0.91811454
01:18:16.840 --> 01:18:17.340 enthusiasts.
NOTE Confidence: 0.9597715
01:18:18.600 --> 01:18:20.219 And I resist this labeling.
NOTE Confidence: 0.9839136
01:18:23.000 --> 01:18:24.060 First of all,
NOTE Confidence: 0.96454704
01:18:24.760 --> 01:18:25.800 the grounds of how I
NOTE Confidence: 0.96454704
01:18:25.800 --> 01:18:27.560 see our field, I think
NOTE Confidence: 0.96454704
01:18:27.560 --> 01:18:29.580 that often it's our job
NOTE Confidence: 0.96454704
01:18:29.719 --> 01:18:30.780 to be facilitators,
NOTE Confidence: 0.98329353
01:18:32.035 --> 01:18:33.415 the opposite of naysayers.
NOTE Confidence: 0.9971333
01:18:33.875 --> 01:18:35.895 Because once we engage with
NOTE Confidence: 0.9971333
01:18:36.035 --> 01:18:36.535 innovation,
NOTE Confidence: 0.95769787

01:18:37.955 --> 01:18:39.415 and call for responsible
NOTE Confidence: 0.8221265

01:18:39.875 --> 01:18:40.775 wise use,
NOTE Confidence: 0.98281676

01:18:41.635 --> 01:18:42.915 our impact will be much
NOTE Confidence: 0.98281676

01:18:42.915 --> 01:18:43.575 more important,
NOTE Confidence: 0.980484

01:18:43.955 --> 01:18:45.155 and we will find ourselves
NOTE Confidence: 0.980484

01:18:45.155 --> 01:18:46.275 in the correct rooms around
NOTE Confidence: 0.980484

01:18:46.275 --> 01:18:47.175 the correct tables.
NOTE Confidence: 0.98679227

01:18:48.810 --> 01:18:49.770 So I'm going back to
NOTE Confidence: 0.98679227

01:18:49.770 --> 01:18:51.130 what you said about I'm
NOTE Confidence: 0.98679227

01:18:51.130 --> 01:18:52.990 not comfortable with the inevitability
NOTE Confidence: 0.9966319

01:18:53.610 --> 01:18:54.270 of it.
NOTE Confidence: 0.9523003

01:18:54.970 --> 01:18:56.250 And at the Hastings Center
NOTE Confidence: 0.9523003

01:18:56.250 --> 01:18:57.850 for Bioethics, Virginia is here.
NOTE Confidence: 0.9523003

01:18:57.850 --> 01:18:59.470 She could testify. We always
NOTE Confidence: 0.9904183

01:18:59.930 --> 01:19:02.030 try to distinguish between questions
NOTE Confidence: 0.9904183

01:19:02.090 --> 01:19:03.070 of should we

NOTE Confidence: 0.97233784

01:19:04.025 --> 01:19:05.705 do it and questions of

NOTE Confidence: 0.97233784

01:19:05.705 --> 01:19:06.905 how should we do it

NOTE Confidence: 0.97233784

01:19:06.905 --> 01:19:08.104 and when we transition from

NOTE Confidence: 0.97233784

01:19:08.104 --> 01:19:09.085 one to the other.

NOTE Confidence: 0.99554765

01:19:10.025 --> 01:19:11.885 And my problem with this,

NOTE Confidence: 0.9653119

01:19:12.745 --> 01:19:14.505 approach of I don't I'm

NOTE Confidence: 0.9653119

01:19:14.505 --> 01:19:15.965 not comfortable with the inevitability

NOTE Confidence: 0.9653119

01:19:16.185 --> 01:19:17.225 is that we all know

NOTE Confidence: 0.9653119

01:19:17.225 --> 01:19:18.445 what's happening now.

NOTE Confidence: 0.9976752

01:19:19.070 --> 01:19:20.610 We all know it is

NOTE Confidence: 0.9976752

01:19:20.750 --> 01:19:21.250 inevitable.

NOTE Confidence: 0.9954957

01:19:21.789 --> 01:19:23.650 So in that context,

NOTE Confidence: 0.9475255

01:19:24.189 --> 01:19:25.809 first of all, the reality

NOTE Confidence: 0.9475255

01:19:25.949 --> 01:19:27.309 is inevitable. And second of

NOTE Confidence: 0.9475255

01:19:27.309 --> 01:19:28.689 all, that as a field,

NOTE Confidence: 0.9475255

01:19:28.989 --> 01:19:30.510 we will probably be much
NOTE Confidence: 0.9475255

01:19:30.510 --> 01:19:31.729 more effective as,
NOTE Confidence: 0.9584142

01:19:33.195 --> 01:19:35.054 yay. We're not the naysayers.
NOTE Confidence: 0.9845027

01:19:35.354 --> 01:19:37.034 We're the facilitators, but we're
NOTE Confidence: 0.9845027

01:19:37.034 --> 01:19:37.935 here to tell you
NOTE Confidence: 0.9568832

01:19:38.474 --> 01:19:39.594 how you can mitigate the
NOTE Confidence: 0.9568832

01:19:39.594 --> 01:19:40.875 risks, how you can make
NOTE Confidence: 0.9568832

01:19:40.875 --> 01:19:42.635 wiser choices as you try
NOTE Confidence: 0.9568832

01:19:42.635 --> 01:19:44.335 to teach to to sensitize
NOTE Confidence: 0.9568832

01:19:44.474 --> 01:19:45.215 your developers.
NOTE Confidence: 0.94803816

01:19:47.640 --> 01:19:48.780 What is our role
NOTE Confidence: 0.99647415

01:19:49.320 --> 01:19:50.760 now in this context? How
NOTE Confidence: 0.99647415

01:19:50.760 --> 01:19:51.420 to be
NOTE Confidence: 0.99739337

01:19:51.800 --> 01:19:53.479 around the right tables and
NOTE Confidence: 0.99739337

01:19:53.479 --> 01:19:53.979 still
NOTE Confidence: 0.8067665

01:19:54.439 --> 01:19:56.140 wear the emphasis hat,

NOTE Confidence: 0.9998131

01:19:56.680 --> 01:19:57.979 but not be perceived

NOTE Confidence: 0.98030674

01:19:58.760 --> 01:19:59.979 as we often are?

NOTE Confidence: 0.999241

01:20:02.554 --> 01:20:03.054 Well,

NOTE Confidence: 0.9997217

01:20:05.195 --> 01:20:05.775 I think

NOTE Confidence: 0.9068775

01:20:06.395 --> 01:20:07.375 at some level,

NOTE Confidence: 0.9669554

01:20:09.915 --> 01:20:10.415 bioethicists

NOTE Confidence: 0.99925685

01:20:10.875 --> 01:20:12.235 have already been run over

NOTE Confidence: 0.99925685

01:20:12.235 --> 01:20:13.614 by the AI train.

NOTE Confidence: 0.9996673

01:20:13.915 --> 01:20:15.195 I mean, these are trillions

NOTE Confidence: 0.9996673

01:20:15.195 --> 01:20:16.574 of dollars at stake.

NOTE Confidence: 0.96780044

01:20:17.449 --> 01:20:18.570 We're the fly on the

NOTE Confidence: 0.96780044

01:20:18.570 --> 01:20:20.270 windscreen, and we've been smashed.

NOTE Confidence: 0.96780044

01:20:20.330 --> 01:20:21.630 We're just, you know,

NOTE Confidence: 0.98760676

01:20:22.250 --> 01:20:22.750 we're

NOTE Confidence: 0.99523014

01:20:23.210 --> 01:20:25.290 roadkill on that in that

NOTE Confidence: 0.99523014

01:20:25.290 --> 01:20:25.790 scenario.
NOTE Confidence: 0.9980048

01:20:26.330 --> 01:20:27.790 I don't think that we
NOTE Confidence: 0.9980048

01:20:28.090 --> 01:20:30.090 are going to have much
NOTE Confidence: 0.9980048

01:20:30.090 --> 01:20:30.989 of an impact
NOTE Confidence: 0.9989532

01:20:33.594 --> 01:20:34.094 as
NOTE Confidence: 0.9994832

01:20:34.554 --> 01:20:35.054 facilitators
NOTE Confidence: 0.99938977

01:20:35.835 --> 01:20:37.054 in modulating
NOTE Confidence: 0.9905622

01:20:38.314 --> 01:20:39.755 how the train is going.
NOTE Confidence: 0.9905622

01:20:39.755 --> 01:20:41.594 It's just going at warp
NOTE Confidence: 0.9905622

01:20:41.594 --> 01:20:43.455 speed, and it is fueled
NOTE Confidence: 0.9905622

01:20:43.514 --> 01:20:44.014 by
NOTE Confidence: 0.9977338

01:20:44.500 --> 01:20:46.020 a lot of money and
NOTE Confidence: 0.9977338

01:20:46.020 --> 01:20:47.080 a lot of interest.
NOTE Confidence: 0.99951684

01:20:47.540 --> 01:20:48.840 I just don't think
NOTE Confidence: 0.9272778

01:20:54.179 --> 01:20:55.380 it's something that we have
NOTE Confidence: 0.9272778

01:20:55.380 --> 01:20:57.380 much power to do anything

NOTE Confidence: 0.9272778
01:20:57.380 --> 01:20:57.880 about,
NOTE Confidence: 0.99442923
01:20:59.325 --> 01:21:01.185 except maybe at some very
NOTE Confidence: 0.9900651
01:21:02.765 --> 01:21:04.465 micro levels. I mean,
NOTE Confidence: 0.9713893
01:21:05.645 --> 01:21:07.564 I did not think that
NOTE Confidence: 0.9713893
01:21:07.564 --> 01:21:08.685 five years ago when we
NOTE Confidence: 0.9713893
01:21:08.685 --> 01:21:10.045 started the studies we were
NOTE Confidence: 0.9713893
01:21:10.045 --> 01:21:11.485 doing, they I I'm I'm
NOTE Confidence: 0.9713893
01:21:11.485 --> 01:21:12.600 looking back at the studies
NOTE Confidence: 0.9713893
01:21:12.600 --> 01:21:13.800 that we started all those
NOTE Confidence: 0.9713893
01:21:13.800 --> 01:21:14.920 years ago, and they seem
NOTE Confidence: 0.9713893
01:21:14.920 --> 01:21:16.140 very naive now.
NOTE Confidence: 0.96754915
01:21:17.479 --> 01:21:18.840 I'm good. That said, I'm
NOTE Confidence: 0.96754915
01:21:18.840 --> 01:21:20.380 going to still try to,
NOTE Confidence: 0.9819285
01:21:21.080 --> 01:21:23.000 intervene probably with people at
NOTE Confidence: 0.9819285
01:21:23.000 --> 01:21:24.939 the training stages of AI
NOTE Confidence: 0.97262335

01:21:25.240 --> 01:21:26.600 to have these discussions with
NOTE Confidence: 0.97262335

01:21:26.600 --> 01:21:27.100 them,
NOTE Confidence: 0.9866697

01:21:27.564 --> 01:21:28.525 to try to be more
NOTE Confidence: 0.9866697

01:21:28.525 --> 01:21:30.225 reflexive about what they're doing.
NOTE Confidence: 0.9866697

01:21:30.525 --> 01:21:31.025 But,
NOTE Confidence: 0.99556947

01:21:32.125 --> 01:21:33.025 as you've seen,
NOTE Confidence: 0.99971443

01:21:33.485 --> 01:21:35.085 even people who are inside
NOTE Confidence: 0.99971443

01:21:35.085 --> 01:21:36.865 these companies that are
NOTE Confidence: 0.96875006

01:21:38.685 --> 01:21:40.685 developing AI, as soon as
NOTE Confidence: 0.96875006

01:21:40.685 --> 01:21:41.725 they start getting in the
NOTE Confidence: 0.96875006

01:21:41.725 --> 01:21:42.945 way, they get fired
NOTE Confidence: 0.9606619

01:21:44.100 --> 01:21:45.800 Whole departments of ethics,
NOTE Confidence: 0.8874807

01:21:46.740 --> 01:21:48.280 AI ethics have been
NOTE Confidence: 0.67616916

01:21:49.620 --> 01:21:50.760 disentang disdemolished.
NOTE Confidence: 0.97386533

01:21:52.900 --> 01:21:53.400 So
NOTE Confidence: 0.66271144

01:21:54.820 --> 01:21:55.070 I

NOTE Confidence: 0.9789059
01:21:57.425 --> 01:21:58.705 I'm not sure that answers
NOTE Confidence: 0.9789059
01:21:58.705 --> 01:22:00.385 your question, but I think
NOTE Confidence: 0.9789059
01:22:00.385 --> 01:22:01.125 that it's
NOTE Confidence: 0.9828064
01:22:02.465 --> 01:22:03.285 to think that
NOTE Confidence: 0.98541015
01:22:06.225 --> 01:22:06.725 bioethicists
NOTE Confidence: 0.98884267
01:22:08.065 --> 01:22:09.925 are part of this AI
NOTE Confidence: 0.9977901
01:22:10.705 --> 01:22:11.205 program
NOTE Confidence: 0.82874215
01:22:11.820 --> 01:22:12.320 is,
NOTE Confidence: 0.9990544
01:22:14.060 --> 01:22:14.860 I mean, I wish that
NOTE Confidence: 0.9990544
01:22:14.860 --> 01:22:15.760 it were true.
NOTE Confidence: 0.9940785
01:22:21.979 --> 01:22:23.100 Hi. Thank you so much
NOTE Confidence: 0.9940785
01:22:23.100 --> 01:22:24.240 for a wonderful talk.
NOTE Confidence: 0.9827034
01:22:24.545 --> 01:22:25.744 I think when I think
NOTE Confidence: 0.9827034
01:22:25.744 --> 01:22:27.185 of the ethics of this
NOTE Confidence: 0.9827034
01:22:27.185 --> 01:22:29.104 issue more generally, I think
NOTE Confidence: 0.9827034

01:22:29.104 --> 01:22:30.965 about also access to care
NOTE Confidence: 0.9827034

01:22:31.025 --> 01:22:32.324 and the physician shortage
NOTE Confidence: 0.9267047

01:22:32.945 --> 01:22:34.625 and the thought process that
NOTE Confidence: 0.9267047

01:22:34.625 --> 01:22:35.125 potentially
NOTE Confidence: 0.99228823

01:22:35.744 --> 01:22:37.104 AI can be harnessed to
NOTE Confidence: 0.99228823

01:22:37.104 --> 01:22:38.224 help mitigate some of the
NOTE Confidence: 0.99228823

01:22:38.224 --> 01:22:39.979 effects of the physician shortage,
NOTE Confidence: 0.99228823

01:22:40.040 --> 01:22:40.540 particularly
NOTE Confidence: 0.98345935

01:22:41.080 --> 01:22:42.360 in rural areas or other
NOTE Confidence: 0.98345935

01:22:42.360 --> 01:22:43.720 places that are lacking access
NOTE Confidence: 0.98345935

01:22:43.720 --> 01:22:44.920 to care in our country
NOTE Confidence: 0.98345935

01:22:44.920 --> 01:22:45.740 and internationally,
NOTE Confidence: 0.9897525

01:22:46.600 --> 01:22:48.060 and how we can actually
NOTE Confidence: 0.9897525

01:22:48.200 --> 01:22:49.479 kind of turn the idea
NOTE Confidence: 0.9897525

01:22:49.479 --> 01:22:51.000 of the ethics of AI
NOTE Confidence: 0.9897525

01:22:51.000 --> 01:22:52.280 into more of a positive

NOTE Confidence: 0.9897525
01:22:52.280 --> 01:22:54.135 connotation as well in terms
NOTE Confidence: 0.9897525
01:22:54.135 --> 01:22:55.335 of what can we do
NOTE Confidence: 0.9897525
01:22:55.335 --> 01:22:56.074 to facilitate,
NOTE Confidence: 0.9428998
01:22:56.454 --> 01:22:57.255 kind of similar to what
NOTE Confidence: 0.9428998
01:22:57.255 --> 01:22:58.074 you were saying,
NOTE Confidence: 0.98491645
01:22:58.534 --> 01:22:59.655 the use of AI in
NOTE Confidence: 0.98491645
01:22:59.655 --> 01:23:00.795 some of these underrepresented
NOTE Confidence: 0.99660456
01:23:01.574 --> 01:23:03.814 populations or, you know, places
NOTE Confidence: 0.99660456
01:23:03.814 --> 01:23:04.875 that lack access
NOTE Confidence: 0.9492038
01:23:05.255 --> 01:23:06.054 so we can kind of
NOTE Confidence: 0.9492038
01:23:06.054 --> 01:23:07.895 help filter the most vulnerable
NOTE Confidence: 0.9492038
01:23:07.895 --> 01:23:08.795 people into
NOTE Confidence: 0.99708766
01:23:09.160 --> 01:23:10.280 care models that they need
NOTE Confidence: 0.99708766
01:23:10.280 --> 01:23:11.180 to be in.
NOTE Confidence: 0.9914213
01:23:12.439 --> 01:23:13.740 Yeah. I mean, I completely
NOTE Confidence: 0.9914213

01:23:13.800 --> 01:23:15.080 agree. And if you're one
NOTE Confidence: 0.9914213

01:23:15.080 --> 01:23:16.200 of those people that can
NOTE Confidence: 0.9914213

01:23:16.200 --> 01:23:17.560 help make that happen, then
NOTE Confidence: 0.9914213

01:23:17.560 --> 01:23:19.320 you, you know, you should.
NOTE Confidence: 0.9914213

01:23:19.320 --> 01:23:20.120 I I don't mean to
NOTE Confidence: 0.9914213

01:23:20.120 --> 01:23:21.420 be all doom and gloom,
NOTE Confidence: 0.96598125

01:23:21.880 --> 01:23:23.160 in in spite of what
NOTE Confidence: 0.96598125

01:23:23.160 --> 01:23:24.060 I said to Margit.
NOTE Confidence: 0.8956085

01:23:24.445 --> 01:23:24.945 But,
NOTE Confidence: 0.9853034

01:23:25.725 --> 01:23:27.185 I think that means that,
NOTE Confidence: 0.9996712

01:23:27.645 --> 01:23:28.445 there has to be a
NOTE Confidence: 0.9996712

01:23:28.445 --> 01:23:29.345 lot of attention
NOTE Confidence: 0.9671421

01:23:30.685 --> 01:23:32.125 to actually making these things
NOTE Confidence: 0.9671421

01:23:32.125 --> 01:23:33.585 happen. And the incentives
NOTE Confidence: 0.96491766

01:23:34.045 --> 01:23:35.104 the business incentives,
NOTE Confidence: 0.9991444

01:23:36.365 --> 01:23:37.265 to do that

NOTE Confidence: 0.9604743
01:23:37.645 --> 01:23:38.145 are
NOTE Confidence: 0.9922426
01:23:38.760 --> 01:23:40.040 are something that have to
NOTE Confidence: 0.9922426
01:23:40.040 --> 01:23:40.540 be
NOTE Confidence: 0.8860958
01:23:42.200 --> 01:23:42.700 surmounted.
NOTE Confidence: 0.995883
01:23:43.400 --> 01:23:44.920 They're they're not running in
NOTE Confidence: 0.995883
01:23:44.920 --> 01:23:45.660 that direction.
NOTE Confidence: 0.99646986
01:23:46.120 --> 01:23:46.620 So,
NOTE Confidence: 0.9994242
01:23:48.040 --> 01:23:49.320 you know, we have to
NOTE Confidence: 0.9994242
01:23:49.320 --> 01:23:50.920 be very conscious and fight
NOTE Confidence: 0.9994242
01:23:50.920 --> 01:23:51.420 hard
NOTE Confidence: 0.9994548
01:23:51.985 --> 01:23:53.665 to to ensure that this
NOTE Confidence: 0.9994548
01:23:53.665 --> 01:23:55.825 technology is beneficial and does
NOTE Confidence: 0.9994548
01:23:55.825 --> 01:23:57.045 not create greater
NOTE Confidence: 0.9996131
01:23:57.585 --> 01:23:58.085 disparities
NOTE Confidence: 0.9967305
01:23:58.785 --> 01:24:00.245 where they already exist.
NOTE Confidence: 0.9340802

01:24:04.000 --> 01:24:05.380 I have a different thought
NOTE Confidence: 0.9340802

01:24:05.520 --> 01:24:06.020 about
NOTE Confidence: 0.96985626

01:24:07.040 --> 01:24:08.239 AI. It's out of the
NOTE Confidence: 0.96985626

01:24:08.239 --> 01:24:10.159 box. It's the genie has
NOTE Confidence: 0.96985626

01:24:10.159 --> 01:24:11.119 opened up and it's out
NOTE Confidence: 0.96985626

01:24:11.119 --> 01:24:12.420 there. It's ahead of us.
NOTE Confidence: 0.9996402

01:24:14.000 --> 01:24:14.739 I wonder
NOTE Confidence: 0.98139113

01:24:15.119 --> 01:24:16.800 if an alternative way of
NOTE Confidence: 0.98139113

01:24:16.800 --> 01:24:18.635 thinking about it is us
NOTE Confidence: 0.98139113

01:24:18.635 --> 01:24:20.395 as consumers of health and
NOTE Confidence: 0.98139113

01:24:20.395 --> 01:24:21.055 health care.
NOTE Confidence: 0.99761635

01:24:21.835 --> 01:24:23.755 Right? If there's any chance
NOTE Confidence: 0.99761635

01:24:23.755 --> 01:24:25.995 of fighting the extreme amount
NOTE Confidence: 0.99761635

01:24:25.995 --> 01:24:27.375 of money, it's unclear
NOTE Confidence: 0.995795

01:24:28.075 --> 01:24:29.995 what AI's benefit is as
NOTE Confidence: 0.995795

01:24:29.995 --> 01:24:31.055 a business model.

NOTE Confidence: 0.98956645
01:24:31.980 --> 01:24:33.180 Right? Like, they threw a
NOTE Confidence: 0.98956645
01:24:33.180 --> 01:24:34.480 lot of money at it,
NOTE Confidence: 0.98956645
01:24:34.700 --> 01:24:35.920 but what's the product?
NOTE Confidence: 0.9991815
01:24:36.860 --> 01:24:37.900 So if we think about
NOTE Confidence: 0.9991815
01:24:37.900 --> 01:24:38.960 it as a product
NOTE Confidence: 0.96941245
01:24:39.420 --> 01:24:40.940 and interrogate it and say,
NOTE Confidence: 0.96941245
01:24:40.940 --> 01:24:42.380 well, how is AI being
NOTE Confidence: 0.96941245
01:24:42.380 --> 01:24:43.980 used here and do I
NOTE Confidence: 0.96941245
01:24:43.980 --> 01:24:45.420 like it? Do I do
NOTE Confidence: 0.96941245
01:24:45.420 --> 01:24:46.160 I trust
NOTE Confidence: 0.88768953
01:24:46.780 --> 01:24:47.715 x y z
NOTE Confidence: 0.7596767
01:24:48.275 --> 01:24:48.775 OpenAI,
NOTE Confidence: 0.9461563
01:24:49.155 --> 01:24:50.695 you know, as an organization?
NOTE Confidence: 0.9822247
01:24:51.395 --> 01:24:53.014 Can can we reframe
NOTE Confidence: 0.9967447
01:24:54.195 --> 01:24:56.375 its power over us
NOTE Confidence: 0.99520886

01:24:56.835 --> 01:24:57.655 by asking
NOTE Confidence: 0.9979264

01:24:58.594 --> 01:25:00.775 more specific questions as consumers
NOTE Confidence: 0.9991831

01:25:03.500 --> 01:25:04.000 about
NOTE Confidence: 0.9631916

01:25:04.780 --> 01:25:05.820 where did your model come
NOTE Confidence: 0.9631916

01:25:05.820 --> 01:25:06.939 from, what are your data
NOTE Confidence: 0.9631916

01:25:06.939 --> 01:25:08.300 sources, how do you do
NOTE Confidence: 0.9631916

01:25:08.300 --> 01:25:09.900 this, and how and I'll
NOTE Confidence: 0.9631916

01:25:09.900 --> 01:25:11.520 I'll stop with this thought
NOTE Confidence: 0.9631916

01:25:11.739 --> 01:25:12.960 and and maybe you can
NOTE Confidence: 0.9605685

01:25:13.500 --> 01:25:14.000 extrapolate.
NOTE Confidence: 0.99675685

01:25:15.500 --> 01:25:17.200 Where in the design process
NOTE Confidence: 0.99675685

01:25:17.420 --> 01:25:17.920 of
NOTE Confidence: 0.99745

01:25:18.564 --> 01:25:20.104 large language model systems
NOTE Confidence: 0.93975204

01:25:21.204 --> 01:25:22.804 does patient centered care show
NOTE Confidence: 0.93975204

01:25:22.804 --> 01:25:23.304 up?
NOTE Confidence: 0.9658813

01:25:24.485 --> 01:25:26.184 How do they get designed?

NOTE Confidence: 0.9658813
01:25:26.324 --> 01:25:27.145 Or where
NOTE Confidence: 0.9793727
01:25:27.525 --> 01:25:29.304 where might we design them?
NOTE Confidence: 0.9903104
01:25:30.420 --> 01:25:31.540 Or say that, you know,
NOTE Confidence: 0.9903104
01:25:31.540 --> 01:25:32.979 maybe a hospital system says
NOTE Confidence: 0.9903104
01:25:32.979 --> 01:25:34.020 you have to design it
NOTE Confidence: 0.9903104
01:25:34.020 --> 01:25:35.699 with this in mind. You
NOTE Confidence: 0.9903104
01:25:35.699 --> 01:25:37.239 have to speak to consumers
NOTE Confidence: 0.9903104
01:25:37.300 --> 01:25:39.080 of care in your design.
NOTE Confidence: 0.9903104
01:25:39.380 --> 01:25:40.580 Can we push back as
NOTE Confidence: 0.9903104
01:25:40.580 --> 01:25:41.080 consumers
NOTE Confidence: 0.9856009
01:25:41.460 --> 01:25:42.979 and make greater demands and
NOTE Confidence: 0.9856009
01:25:42.979 --> 01:25:44.600 maybe slow this role?
NOTE Confidence: 0.99829865
01:25:47.475 --> 01:25:48.755 Yeah. I think so. I
NOTE Confidence: 0.99829865
01:25:48.755 --> 01:25:49.955 think that would be putting
NOTE Confidence: 0.99829865
01:25:49.955 --> 01:25:51.074 ourselves in the shoes of
NOTE Confidence: 0.99829865

01:25:51.074 --> 01:25:51.735 the patients,
NOTE Confidence: 0.9426197

01:25:52.354 --> 01:25:53.655 as I mentioned before.
NOTE Confidence: 0.5223891

01:25:55.555 --> 01:25:56.055 And
NOTE Confidence: 0.9990422

01:25:56.515 --> 01:25:57.255 that would
NOTE Confidence: 0.9847088

01:25:57.635 --> 01:25:58.854 require some accountability.
NOTE Confidence: 0.99852514

01:26:00.050 --> 01:26:01.250 And as much as, you
NOTE Confidence: 0.99852514

01:26:01.250 --> 01:26:02.630 know, people have
NOTE Confidence: 0.98746556

01:26:02.930 --> 01:26:04.689 tried to develop things that
NOTE Confidence: 0.98746556

01:26:04.689 --> 01:26:07.030 save clinicians time or
NOTE Confidence: 0.98373926

01:26:07.650 --> 01:26:08.630 reduce workload,
NOTE Confidence: 0.95991445

01:26:09.489 --> 01:26:10.530 I think we have to
NOTE Confidence: 0.95991445

01:26:10.530 --> 01:26:12.130 really evaluate and see whether
NOTE Confidence: 0.95991445

01:26:12.130 --> 01:26:13.650 they actually do because many
NOTE Confidence: 0.95991445

01:26:13.650 --> 01:26:14.850 times they don't. They add
NOTE Confidence: 0.95991445

01:26:14.850 --> 01:26:16.775 workload. They increase times.
NOTE Confidence: 0.9867954

01:26:17.475 --> 01:26:18.594 They don't do what they

NOTE Confidence: 0.9867954

01:26:18.594 --> 01:26:20.695 were intended to do. So

NOTE Confidence: 0.99919146

01:26:21.555 --> 01:26:22.515 we have to have some

NOTE Confidence: 0.99919146

01:26:22.515 --> 01:26:23.814 way of insisting.

NOTE Confidence: 0.9678594

01:26:30.439 --> 01:26:31.479 I think I wanna be

NOTE Confidence: 0.9678594

01:26:31.479 --> 01:26:32.679 respectful of everybody's time, and

NOTE Confidence: 0.9678594

01:26:32.679 --> 01:26:33.960 I wanna end sharply at

NOTE Confidence: 0.9678594

01:26:33.960 --> 01:26:34.760 seven, but I think we

NOTE Confidence: 0.9678594

01:26:34.760 --> 01:26:36.199 have time for one one

NOTE Confidence: 0.9678594

01:26:36.199 --> 01:26:36.699 final

NOTE Confidence: 0.97380954

01:26:37.560 --> 01:26:38.679 comment or question. Thank you

NOTE Confidence: 0.97380954

01:26:38.679 --> 01:26:39.479 so much. As I've been

NOTE Confidence: 0.97380954

01:26:39.479 --> 01:26:40.439 listening, you know, I was

NOTE Confidence: 0.97380954

01:26:40.439 --> 01:26:42.060 in clinic today all day

NOTE Confidence: 0.97380954

01:26:42.280 --> 01:26:43.719 feeling a little weighed down

NOTE Confidence: 0.97380954

01:26:43.719 --> 01:26:45.075 by the digital system and

NOTE Confidence: 0.97380954

01:26:45.075 --> 01:26:46.995 the paperwork demands and feeling

NOTE Confidence: 0.97380954

01:26:46.995 --> 01:26:47.575 a little

NOTE Confidence: 0.9887253

01:26:47.955 --> 01:26:49.075 despondent at the end of

NOTE Confidence: 0.9887253

01:26:49.075 --> 01:26:50.615 the day about my contribution.

NOTE Confidence: 0.97909397

01:26:50.995 --> 01:26:52.195 And, you know, I've been

NOTE Confidence: 0.97909397

01:26:52.195 --> 01:26:53.315 trying to think about, in

NOTE Confidence: 0.97909397

01:26:53.315 --> 01:26:54.835 general, the way I interact

NOTE Confidence: 0.97909397

01:26:54.835 --> 01:26:56.115 with the medical record and

NOTE Confidence: 0.97909397

01:26:56.115 --> 01:26:57.495 note writing, and

NOTE Confidence: 0.9957056

01:26:58.040 --> 01:26:59.820 I've I've been trying to

NOTE Confidence: 0.9957056

01:27:00.040 --> 01:27:01.340 wonder about how

NOTE Confidence: 0.98249215

01:27:01.960 --> 01:27:03.420 note writing as an empathic

NOTE Confidence: 0.98249215

01:27:03.640 --> 01:27:05.239 practice can be helpful to

NOTE Confidence: 0.98249215

01:27:05.239 --> 01:27:06.360 us and to our trainees.

NOTE Confidence: 0.98249215

01:27:06.360 --> 01:27:07.719 And I wonder how you

NOTE Confidence: 0.98249215

01:27:07.719 --> 01:27:09.020 see the role of AI

NOTE Confidence: 0.9772906
01:27:09.560 --> 01:27:11.560 in terms of opportunities for
NOTE Confidence: 0.9772906
01:27:11.560 --> 01:27:12.620 increasing or
NOTE Confidence: 0.8507126
01:27:13.025 --> 01:27:14.145 decreasing our sense of,
NOTE Confidence: 0.98581195
01:27:15.425 --> 01:27:16.625 connection with the patient on
NOTE Confidence: 0.98581195
01:27:16.625 --> 01:27:17.745 a human level in our
NOTE Confidence: 0.98581195
01:27:17.745 --> 01:27:18.245 documentation?
NOTE Confidence: 0.9971392
01:27:20.145 --> 01:27:21.525 Sorry. Connection with
NOTE Confidence: 0.9766092
01:27:22.064 --> 01:27:23.345 you know, the connection with
NOTE Confidence: 0.9766092
01:27:23.345 --> 01:27:24.385 the patient on a human
NOTE Confidence: 0.9766092
01:27:24.385 --> 01:27:25.745 level and sort of empathy
NOTE Confidence: 0.9766092
01:27:25.745 --> 01:27:28.330 building versus my feeling of
NOTE Confidence: 0.9766092
01:27:28.330 --> 01:27:29.610 being weighed down at the
NOTE Confidence: 0.9766092
01:27:29.610 --> 01:27:30.430 end of the day?
NOTE Confidence: 0.9008125
01:27:31.130 --> 01:27:32.729 Yes. I've I'm sorry you
NOTE Confidence: 0.9008125
01:27:32.729 --> 01:27:34.250 feel weighed down by all
NOTE Confidence: 0.9008125

01:27:34.250 --> 01:27:34.750 that.
NOTE Confidence: 0.967656

01:27:35.770 --> 01:27:37.050 And AI is supposed to
NOTE Confidence: 0.967656

01:27:37.050 --> 01:27:37.870 help that.
NOTE Confidence: 0.97914827

01:27:40.505 --> 01:27:41.625 But I do think, you
NOTE Confidence: 0.97914827

01:27:41.625 --> 01:27:42.825 know, I've we were just
NOTE Confidence: 0.97914827

01:27:42.825 --> 01:27:44.025 at the American Society of
NOTE Confidence: 0.97914827

01:27:44.025 --> 01:27:46.345 Bioethics and Humanities meeting, last
NOTE Confidence: 0.97914827

01:27:46.345 --> 01:27:47.705 week, and people have been
NOTE Confidence: 0.97914827

01:27:47.705 --> 01:27:49.305 studying this. So I think
NOTE Confidence: 0.97914827

01:27:49.305 --> 01:27:50.525 there'll be a lot to
NOTE Confidence: 0.97914827

01:27:50.665 --> 01:27:52.979 discover about what the effects
NOTE Confidence: 0.97914827

01:27:52.979 --> 01:27:54.660 are of AI in in
NOTE Confidence: 0.97914827

01:27:54.660 --> 01:27:57.000 these communications between patients
NOTE Confidence: 0.9739267

01:27:58.020 --> 01:28:00.020 and their clinicians. And some
NOTE Confidence: 0.9739267

01:28:00.020 --> 01:28:01.060 of the results were kind
NOTE Confidence: 0.9739267

01:28:01.060 --> 01:28:01.720 of surprising.

NOTE Confidence: 0.9845653
01:28:03.540 --> 01:28:04.900 So I'm not sure that
NOTE Confidence: 0.9845653
01:28:04.900 --> 01:28:06.420 I we know what those
NOTE Confidence: 0.9845653
01:28:06.420 --> 01:28:07.560 effects will be.
NOTE Confidence: 0.95051914
01:28:09.665 --> 01:28:11.505 And it it so far,
NOTE Confidence: 0.95051914
01:28:11.505 --> 01:28:12.785 it's you know, the jury's
NOTE Confidence: 0.95051914
01:28:12.785 --> 01:28:13.825 still out. But,
NOTE Confidence: 0.99896264
01:28:15.345 --> 01:28:16.325 I think that
NOTE Confidence: 0.9962769
01:28:16.785 --> 01:28:18.064 one thing that seems to
NOTE Confidence: 0.9962769
01:28:18.064 --> 01:28:18.564 be
NOTE Confidence: 0.9898111
01:28:19.185 --> 01:28:20.564 the case is that,
NOTE Confidence: 0.99393356
01:28:21.219 --> 01:28:22.439 at least right now,
NOTE Confidence: 0.9995709
01:28:22.979 --> 01:28:24.119 patients can tell
NOTE Confidence: 0.9542803
01:28:24.900 --> 01:28:26.979 the difference between AI generated
NOTE Confidence: 0.9542803
01:28:26.979 --> 01:28:28.679 message and their clinicians
NOTE Confidence: 0.92720675
01:28:28.979 --> 01:28:29.960 generated messages.
NOTE Confidence: 0.99846363

01:28:30.500 --> 01:28:31.000 So
NOTE Confidence: 0.9742062

01:28:31.540 --> 01:28:33.699 whatever the effects are, they'll
NOTE Confidence: 0.9742062

01:28:33.699 --> 01:28:35.000 know where it comes from
NOTE Confidence: 0.9742062

01:28:35.219 --> 01:28:36.520 one way or the other.
NOTE Confidence: 0.94304883

01:28:37.695 --> 01:28:38.195 And
NOTE Confidence: 0.9668324

01:28:38.814 --> 01:28:39.475 and so
NOTE Confidence: 0.99799585

01:28:40.415 --> 01:28:41.614 if they know that it's
NOTE Confidence: 0.99799585

01:28:41.614 --> 01:28:43.534 an AI generated message, then
NOTE Confidence: 0.99799585

01:28:43.534 --> 01:28:45.375 if they are seeking some
NOTE Confidence: 0.99799585

01:28:45.375 --> 01:28:46.034 kind of
NOTE Confidence: 0.9953661

01:28:47.135 --> 01:28:47.635 connection,
NOTE Confidence: 0.9987424

01:28:49.054 --> 01:28:50.275 then they
NOTE Confidence: 0.9991102

01:28:51.370 --> 01:28:52.570 will know that they're not
NOTE Confidence: 0.9991102

01:28:52.570 --> 01:28:53.390 getting it.
NOTE Confidence: 0.98417526

01:28:54.090 --> 01:28:55.050 On the other hand, I
NOTE Confidence: 0.98417526

01:28:55.050 --> 01:28:57.150 think some of the studies

NOTE Confidence: 0.98417526
01:28:57.210 --> 01:28:58.410 suggested that the,
NOTE Confidence: 0.99608994
01:28:59.370 --> 01:29:00.830 the patients didn't necessarily
NOTE Confidence: 0.9989658
01:29:01.130 --> 01:29:02.330 mind that there was an
NOTE Confidence: 0.9989658
01:29:02.330 --> 01:29:03.150 AI generated
NOTE Confidence: 0.9463198
01:29:03.530 --> 01:29:04.670 message if
NOTE Confidence: 0.9005495
01:29:05.135 --> 01:29:06.515 they thought a clinician
NOTE Confidence: 0.990098
01:29:07.135 --> 01:29:09.075 or any clinician was reviewing
NOTE Confidence: 0.990098
01:29:09.215 --> 01:29:09.875 the message
NOTE Confidence: 0.99468684
01:29:10.415 --> 01:29:11.155 for accuracy.
NOTE Confidence: 0.9941294
01:29:11.854 --> 01:29:12.735 So it may be that
NOTE Confidence: 0.9941294
01:29:12.735 --> 01:29:13.935 people are not really looking
NOTE Confidence: 0.9941294
01:29:13.935 --> 01:29:15.314 to those kinds of communications
NOTE Confidence: 0.9963232
01:29:15.854 --> 01:29:16.354 for,
NOTE Confidence: 0.9477657
01:29:18.270 --> 01:29:19.229 you know, a warm and
NOTE Confidence: 0.9477657
01:29:19.229 --> 01:29:20.989 fuzzy experience and that they're
NOTE Confidence: 0.9477657

01:29:20.989 --> 01:29:22.290 looking for that elsewhere,
NOTE Confidence: 0.99561113

01:29:23.310 --> 01:29:24.610 maybe in person.
NOTE Confidence: 0.97098356

01:29:25.949 --> 01:29:26.989 So I think we don't
NOTE Confidence: 0.97098356

01:29:26.989 --> 01:29:28.510 really know how those things
NOTE Confidence: 0.97098356

01:29:28.510 --> 01:29:29.250 will affect
NOTE Confidence: 0.8909514

01:29:31.035 --> 01:29:31.775 the relationship.
NOTE Confidence: 0.82184976

01:29:33.275 --> 01:29:33.775 But,
NOTE Confidence: 0.9540813

01:29:35.354 --> 01:29:36.955 I hope that it makes
NOTE Confidence: 0.9540813

01:29:36.955 --> 01:29:38.635 you, feel less weighed down
NOTE Confidence: 0.9540813

01:29:38.635 --> 01:29:39.535 in the future.
NOTE Confidence: 0.95637935

01:29:42.290 --> 01:29:43.650 Thank you so much. Thank
NOTE Confidence: 0.95637935

01:29:43.650 --> 01:29:44.970 thank you to to the
NOTE Confidence: 0.95637935

01:29:45.170 --> 01:29:45.670 everybody,
NOTE Confidence: 0.9468495

01:29:46.210 --> 01:29:47.970 who who participated and for
NOTE Confidence: 0.9468495

01:29:47.970 --> 01:29:49.650 your your questions and and
NOTE Confidence: 0.9468495

01:29:49.650 --> 01:29:51.170 comments. And thank you especially

NOTE Confidence: 0.9468495
01:29:51.170 --> 01:29:52.290 to doctor Choi. I know
NOTE Confidence: 0.9468495
01:29:52.290 --> 01:29:53.590 that Tom would have been
NOTE Confidence: 0.89880717
01:29:53.970 --> 01:29:55.650 really delighted with your talk
NOTE Confidence: 0.89880717
01:29:55.650 --> 01:29:56.850 and with the dialogue that
NOTE Confidence: 0.89880717
01:29:56.850 --> 01:29:57.915 you had. Thank you.
NOTE Confidence: 0.966545
01:29:58.715 --> 01:29:59.375 I wanna
NOTE Confidence: 0.48875684
01:29:59.835 --> 01:30:00.335 extend
NOTE Confidence: 0.58991545
01:30:01.675 --> 01:30:02.895 the gesture of
NOTE Confidence: 0.86811566
01:30:03.515 --> 01:30:05.115 appreciation from the program for
NOTE Confidence: 0.86811566
01:30:05.115 --> 01:30:07.075 biomedical ethics. Some Yale swag
NOTE Confidence: 0.86811566
01:30:07.275 --> 01:30:08.235 Thank you. As is our
NOTE Confidence: 0.86811566
01:30:08.235 --> 01:30:08.735 tradition.
NOTE Confidence: 0.99808764
01:30:09.755 --> 01:30:10.975 Thank you very much.