



AI Ignition

Ignite your AI curiosity with Nick Thompson

Endless opportunities of AI

A monthly chat about the human side of artificial intelligence, with your host, Beena Ammanath. We'll take a deep dive into the past, present, and future of AI, machine learning, neural networks, and other cutting-edge technologies. Here is your host, Beena.

Beena Ammanath (Beena): Hello, my name is Beena Ammanath. I am the executive director of the Deloitte AI Institute. Today on AI ignition, we have Nick Thompson, editor-in-chief of Wired, a publication committed to figuring out how technology is changing the world. Welcome, Nick, it is great to have you on today's show. How are you doing?

Nick Thompson (Nick): Thank you, Beena. I am delighted to be here, and I am doing as well as anybody during the corona apocalypse can with three kids starting Zoom school right behind us. You'll probably hear from them during this conversation, so here we are.

Beena: That's great to hear. I think we actually are getting more family time, so on the positive side, that's great.

Nick: Yeah, there are real benefits to that. So I'm all for that.

Beena: One of the questions that I have always been meaning to ask you is can you share about the craziest story that you have ever written about at Wired.

Nick: I can happily do that. And, in fact, there is one that jumps right to mind. So, I have done a lot of crazy stories. One of my favorite crazy stories was trying to track down whether the Russians actually built a doomsday machine that was reactivated under Putin and talking to Russian nuclear scientists and meeting with secret Russian scientists and getting my wallet stolen when I went to Moscow and worked on it and having it returned with everything but the business cards. But that is not the craziest one. The craziest one was a story I did with a guy named Evan Ratliff, and it was in 2009 and we were both really interested in the question of what it takes to disappear digitally. It seemed like a lot of people were kind of going off the grid, maybe faking their deaths, trying to start a new life. And Evan and I and two other

friends got extremely drunk one night and we came up with this idea that he would do a two-part series. First, he would write about how you go off the grid and disappear and fake your death, and then he would do it and I would organize a manhunt to try to find him. And so we did it. He wrote a story and it was terrific and then he went on the run and the rule was that I would have all the information that a private investigator would have, this was very early in Twitter, it was the first time I really used Twitter, and I would post all that information on Twitter, and we got thousands of people looking for him, posted all of these clues, I interviewed his family members and posted the information online. He tried to disguise his steps, he shaved his head, he ditched his car and traveled around the country, he sort of hooked up with a band that was on tour, and then eventually he was found. The deal was if somebody would find him within a month, they would win \$5,000 and if they didn't, he would get \$5,000. At the end, the last few days, I started giving out more clues, and there was a clue if you solve the *New York Times* crossword puzzle, there was a clue that we had gotten Will Shortz to embed and it revealed that Evan had to go to a book reading that day and, meanwhile, he had screwed up by using "tour" at one point, which had revealed his Twitter account to a really smart user who had followed his new identity, his Twitter account, as a fembot so Evan wouldn't suspect anything, and then by tracking the IP address of the Twitter account had realized that Evan was in New Orleans. Suddenly, there was a whole group of hunters who went to all the book readings in New Orleans and found him. So, it was awesome.

Beena: So, is there a conclusion that you cannot disappear digitally?

Nick: Well, the conclusion is that back then our writer couldn't disappear. It is interesting right now, it is harder to disappear now, there are so many more digital footprints, so many more breadcrumbs we leave behind, it would be very, very hard to disappear. But there are also tools for disguising. I can set up a VPN in two seconds right now, which I couldn't back then. I can disguise my tracks in certain ways. In fact, let's try it. So, Beena, I want you to go on the run and I am going to try to find you. I think it is probably harder to disappear now than it was then, but it can be done.

Beena: You have been covering the tech world for a long time. I am sure there are a lot more crazy stories that we could talk about, but what are some of the biggest changes that you have seen in the past 10 years besides it becoming harder to disappear digitally. Are there some big changes that you have seen how tech has shaped the world, and can you share your perspective on the past 10 years?

Nick: The last 10 years were so interesting because there have been all kinds of magical innovations, there have been many of the best things that we forecast would happen have happened. What has happened over the last 10 years is tech has gone from being outsiders and challenging the power structure, to being in the power structure. The most powerful and important companies on earth are all tech companies, and the people with the most influence over American culture or American democracy are executives of tech platforms. This is an interesting challenge for Wired, because Wired started as a magazine, championing the tech industry and pushing the narrative that change is good and whatever tech brings you will be positive, and now we're not pushing a bunch of scrappy outsiders with great ideas, we are doing the opposite. We are challenging a bunch of insiders with maybe too much power. So, the whole narrative of the tech industry has changed the way people think about the tech industry from small, cool, and scrappy to gigantic and it's almost threatening, this change maybe overcorrected. But that's a massive, massive shift, and it has happened slowly over the last 10 years then very quickly over the last four.

Beena: Yeah, I have studied things like assembly language and cobalt and at that time tech was more in the back office. Now you hear more and more that every company is a tech company, and what is your take on that statement of every company, no matter which field you are in, is a tech company.

Nick: Not entirely true. I was just paying a bill to the guy who is building a trench in our backyard and he has a small operation, we communicate by email, and I send him a check by automatic payments, but he is not a tech company. In some ways, like the hydraulic lifter is technology, but not every company is a tech company, but more and more are. I mean, a very interesting example is my industry, media. Are we a tech company? In some ways we have to be, and in some ways the struggle of the media industry has been to understand how it has to do that. So, there are very interesting opportunities in every industry as creative people recognize where tech can change old sclerotic processes or AI can change old sclerotic processes and make them much more efficient.

Beena: Yeah, I think AI is another one of those where it is disrupting across several industries, and as you look across these industries where AI is disrupting, what are some of the areas that you find most exciting, or what are some of the areas that you didn't see happening or getting disrupted, but have gotten disrupted or have changed?

Nick: The most interesting to me right now is medicine. And, of course, AI would disrupt medicine, but it is an area where technological change is surprisingly hard and there's this interesting dynamic where medicine is the area where both change is most important and could get the most benefits through big data analysis, where you could really get everybody's health records, make them transportable, understandable, and do machine learning on them. The capacity to develop new drugs and make people healthier is profound, since the potential net benefits to humankind of machine learning and medicine are massive; on the other hand, the potential privacy violations could not be higher either. So, you have this tension between huge benefits to the group and huge risks to the individual. And so over time, the healthcare industry has been a little more resistant to innovation than I would have expected, and it is partly because of the privacy concerns, it is partly because it's a highly regulated area and highly risk averse, but then what happened is COVID and people are afraid to go into the hospital and everything shifted online and the number of telemedicine claims has gone up 4,000 percent or whatever the number is and the amount of innovation we're now seeing in medicine and the long-term effects of that is just astonishing. And you are going to start seeing telemedicine booming, you're going to see the invention of technologies that allow for at-home data gathering of the kind we have never had before when you're doing sonograms at home, you could only do stethoscopes at home, like the things that will be built in medicine in the next few years, in part because of corona and in part because of the innovation unleashed, are extraordinary. So, I would say medicine, number one, education, probably number two, but a lot of areas with big, big change.

Beena: What I have seen is also the fact that the core technology of AI is evolving and then the applications of AI is growing absolutely and then there is the risk and consequences, whether we talk about the ethics, privacy, security, so that is like three parallel streams and each one is still evolving, none of it is mature on its own. This also raises that interesting point on what's the new roles that get created. Just looking back 10 years, the roles—we hear a lot about jobs being taken away by AI, but we also see new roles that get created. My question to you would be, what is a role that you didn't see coming or what you were surprised and you are like, "Ah, I never imagined that a role like this would have existed 10 years from now."

Nick: That's a good question. So I would say the thing that has been most interesting to me recently was a conversation I had with somebody who is deep into this question, and I was pushing, I was saying, "Where is AI really changing businesses in surprising ways?" And the answer was, what we're learning is that most companies that hire AI researchers and just say, "Hey, we need an AI strategy, we've hired three people who know AI, we've put them on a data science team and they are over there in cubicle nine," that's not working. And what really is working are companies where they've figured out systems where AIs and humans can work together to be more efficient. And so, going back to medicine, there has long been this hypothesis that AI would replace radiologists. And so that was kind of the iconic example, and if you read any book on AI published between 2007 and 2016, it will talk about radiologists. What we have actually seen is that image recognition has improved as expected. AI is extremely good at reading images and identifying tumors, but it hasn't replaced the radiologists. What it has done is it has allowed the radiologist to be much more efficient. I interviewed a radiologist not long ago who said, "Sure, I work with AI, and it means that I can look at 100 scans a day and it will give me probability scores of each, which allows me to sort through them much more quickly." So, I think that what is happening with AI in the best cases are companies and individuals kind of moving up the chain. I'll give you another example that I love. I was talking to somebody else at another company and what they have done is they have used, it's kind of a meta AI example, where they built an internal training system where they identify what are the jobs that are likely to change the most in the future, where are we going to have the most needs, which of our employees are most at risk of therefore losing their jobs, and how can we upskill them, and then helping to push those employees into education systems to learn the new skills. So, in some ways it's using AI to identify how AI will change the organization and then training people in AI. And this company has shifted huge numbers of jobs without having to do layoffs, which is a really interesting thing to have done.

Beena: Several industries have changed. Can you speak a little bit about how has the media industry, media business, changed? You have introduced a lot of new concepts, like the paywall, but how has the business itself evolved with AI in the past few years, and what are some of the jobs that exist today which didn't exist in the media industry 10 years ago?

Nick: The first is changes in advertising, and the central source of revenue for newspapers and magazines used to be print advertising and people trying to reach bundles of readers who liked that subject area. Of course, the internet made that mode somewhat obsolete. If you need to reach people who like golf, you don't have to put an ad in a golf magazine, you can just buy an ad on any social media platform targeted at people who have searched for golf or who like golf. So, the advertising market has gradually declined, and that has caused a lot of financial pressure. So, the way that we countered that or the business model we built at the New Yorker and are building at Wired is primarily about subscriptions and payrolls, which is, okay, fine, we are not going to get ads, let's just make content that people like and say you have to pay us to read it, and that's worked quite well at both places. We have also branched into business model affiliate reviews. For example, we will review a bunch of headsets, headphones, and if you click on one, we will get a cut, so that is a rapidly growing business area for us and that is terrific and good. Other companies have done more in events or they have done all sorts of other ways to compensate for the loss of advertising, though, of course, the number of jobs in media has declined massively because we were supported by advertising. So, then what about AI and technology? Well, there are some uses for it. So, I built a company on the side, it was a really interesting media business model, it was called the Atavist, and what we did is one long-form journalism story a

month and we would present it in a really crafty, interesting way, layering video, audio, and text, and then we'd build a custom CMS to support it and then license that CMS. So we would basically test the CMS through our journalism, improve it that way, and then license it out to other companies. It was a good company, we sold it to WordPress, and it was a successful, happy outcome for a journalism entity. There are other companies that have built some AI tools for image recognition, for sorting through headlines, but at some point AI will be used to help reporters, it will be used to copyedit stories, it will be used to fact check, it will be used for legal review, it will be used to make assignments, it will be used to write stories. Right now, AI can write sports stories but really nothing of complexity.

Beena: And why is that? Is that because there is a lack of the domain expertise and the AI specialists connecting? Does there need to be some cross-pollination, the domain subject matter experts driving the needs, the demands from the AI experts to actually build that out?

Nick: I think it is a couple of factors. One reason why is because as revenue declines in journalism, the incentives of all the executives is not to, let's research and built something new, it's let's save as many jobs as we can. You go through 10 rounds of budget cuts, then it is very hard to make an investment in something new, because there is a perception that every new dollar spent on something means one other person's job is lost. So, because it is very hard to invest in the new in a declining industry, though, of course, that is where you most need to invest in the new. So that is a challenge. Another issue is the actual complexity of the type of AI that will be most beneficial in journalism. So, AI is good at image recognition, it is good at speech recognition, it is good at pattern finding, it's not good at writing. There's GPT-3 and there are some examples and some people have taken a crack at writing, but like the nuances of language evade even the best AI right now. So, that has slowed down AI in our field. There still could be AI use in back office solutions and web posting and all of that, but in the core of the work we do in journalism, I think AI's use is relatively limited.

Beena: You mentioned education briefly as one of the industries that we will actually see a lot of traction with AI, with what is going on and with what the world is dealing with right now and remote education. What do you see as some of the opportunities around education and even employee training, as you were speaking about earlier? What are some of the opportunities there?

Nick: It's massive. If I were to start a new company, I think I would certainly look in the field of education, because the possibility of using AI to customize an education platform for a child, to figure out, okay, we have looked at a million tests from seventh graders and we have looked at your seventh grader's test and we have actually not only understood what his weakness are, but how to correct those weaknesses, and then how to tailor our teaching for his particular ambitions. Those are massive. And I haven't seen any of that. There is no sense—my kids go to a very good school in Brooklyn—there's no sense that there is a custom AI system tailoring their learning, and there should be. It should be an area where we have the data, we have the expertise, so I immensely look forward to the day when kids at school in America are, you know, AI is running in the background to figure out how to help them get smarter and meet their goals.

Beena: What are some of the other industries where AI hasn't made an impact, but you think there is a huge opportunity there.

Nick: Okay, another one that I'm really interested in, and this is the most important one there is, is the defense department. There, the question is, to what degree will the defense department allow AI in the

creation and programming of weapons systems. It's an incredibly complicated question because you have two things that are—could not be more intentioned. Number one is that military decisions have to be explainable and they are of such great stakes that we want humans to be involved, like the notion that an AI system could be programmed to kill another human should make any human stomach churn. As I say that sentence, it should make everybody uncomfortable. But then, in contrast to that, there is the fact that the faster a military system can respond, the more likely it is to win. And in fact, if there were a conflict between one country and another country, country A and country B, and country A used AI to make decisions and to target weapons and country B did not, country A would win. So, by standing up for your principles and keeping AI out of the decision-making loops, you would put your nation's military, and therefore your nation's civilians, at risk. So, how do we balance that as we go forward? Do we allow AI program systems to make kill decisions? Do we allow AI program systems to launch defensive weapons? Would we ever allow an AI system to order a preemptive nuclear strike based on details that it had learned about an adversary's nuclear ambitions? So, you can imagine all hell breaking loose because of this. At the very least, it's something to watch.

Beena: Yes, agree. The whole discussion around ethics and building out trustworthy applications of AI is—I think there is still a lot of work to be done in that space. Have you seen any advances in, whether it is protection of privacy or any of the aspects around ethics, driving explainability, transparency, reducing bias? Are there any technologies or tools that have excited you where they have actually started making you feel that technology is promising to actually tackle those ethical challenges?

Nick: Great question. What I have seen tons of progress in is in this conversation. Every company that now is advanced in AI has an ethics team, has an ethics consultant, and has ethics paradigms. They have people making sure how to avoid racial bias, how to avoid discriminatory outcomes, how to avoid letting bias datasets influence decisions. Then you have people who not only are trying to avoid biases getting into the algorithms, but also who are examining the impact of the algorithms for differential outputs. Maybe it seemed clearest in the conversation about facial recognition where we have had, it is now a well-known fact, anybody who follows tech knows that facial recognition has a harder time identifying black people than it does white people. It is unclear exactly how big the difference is, how frequent the errors are, but the notion that law enforcement would then use a racially biased system is anathema to more or less everybody. There is more or less universal agreement and then there are examples of, the famous example of the black man in Detroit, he was arrested for a crime he didn't commit because the algorithm couldn't tell him from the actual criminal. There is consensus that that is a substantial problem that has to be fixed if we are going to go forward with facial recognition. So that is an area with I think real progress. Now what you don't want is to completely block technologies because there might be any sort of bias. What you want to do is build the technology so there is minimal bias, audit the results so that there is minimal bias, and do everything you can to find socially optimal outcomes, because you can have a facial recognition system that is net beneficial, you just have to work really hard to build it right.

Beena: I think a lot of it is also context specific. Broader than facial recognition, if you look at image recognition, it might be where you are using it on a manufacturing plant for safety, being able to recognize those images and actually provide safety guidance or warnings is super important. The other thing is also it comes to the fact that we don't really have clear regulations or that stream itself is evolving, the third stream, the consequences of risk and how do you mitigate that. I think it will take

some time. Do you think as we evolve on the technology side, the risk and consequence can grow at the same pace enabled to help continue to drive innovation, but with the guardrails?

Nick: I think that is where we are, and I am very heartened by it. One of the big changes—I have been in this job for four years—is over those four years as I’ve watched this closely, I would answer that question much more confidently now than I would have four years ago. And I feel like the number of people who are building those guardrails and aware of those guardrails is increasing by the day. I think the tech industry went through a reckoning in 2016 and 2017 and it was a reckoning in a thousand ways, it was a reckoning over privacy, it was a reckoning over consequences, it was a reckoning over democracy, it was a reckoning over attention and what tech is doing to our brains. There was an immense and interesting reckoning, but I now think that technology and the technology industry and every product manager in America is aware of this and thinking about this.

Beena: Nick, you have a pulse on this space. What would be your advice to someone who wants to stay current on AI, besides reading Wired, of course, and following you on social media. What would you suggest for someone to stay current on AI?

Nick: How to stay current in AI. So, Wired has a dedicated AI section where multiple reporters focus on the issues, so I am glad to give it a shout-out. I think that podcasts are a really terrific way to stay up-to-date on AI, there are all kinds of super interesting conversations that happen constantly. I like email newsletters, I like the open AI newsletter, Jeffrey Ding’s newsletter about AI in China I think is really quite good on a pressing topic. There are new books that come out, every six months there will be a really good one, so reading two to four books a year on AI and where it is I think is a useful strategy. The best one I’ve read recently is probably Kai-Fu Lee’s *AI Superpowers*, which came out last year. So, it’s a mix of books, podcasts, newsletters, and websites.

Beena: Nick, how can people stay connected with you? Where can they follow you?

Nick: I do daily videos on what I think is the most interesting thing in tech and I post those on LinkedIn, where I’m Nicholas Thompson, and you can follow me there or connect with me there. I post them on Facebook, where I am @nxthompson, Nicholas Thompson and then I tweet all the time. I’m on Instagram, I’m on Strava, I’m on Periscope. I’m out there. But it’s mostly just nxthompson and it’s the same avatar, because there is a Nicholas Thompson who is an ultimate fighter, there is one who is a golfer, but I’m the guy with glasses on a bridge.

Beena: I have been watching your videos for several months now, and I really love it. So I would give a huge shout-out to—that is one of the best ways to stay current on tech news, just follow Nicholas’s videos on LinkedIn.

Nick: That’s great, I am delighted to hear you say that. It’s interesting, I put a fair amount of effort into them. It’s three minutes a day, but it’s an important—you know, my job as editor-in-chief of Wired is so bureaucratic and there is so much of this and so much of that, but I am committed to this in part because I love it, and in part because I get feedback from smart people every day, and in part because it’s a way of forcing myself to stay inside the tech news, which I think is important.

Beena: Nick, thanks again for being with us on the show, and I want to thank our audience for tuning into AI Ignition. Be sure to stay connected with the Deloitte AI Institute for more AI research and insights.

Thanks for tuning into another episode. Check out our AI Ignition page on the Deloitte AI Institute website for full video and podcast episodes. And tune in next time for more thought-provoking conversations with AI leaders around the world.