Benjamin Hillard

Dr. Trim

CICS 305

10- Mar - 2020

Hidden Threat

AI is often the villain in movies. As early as 1968 we've seen horror thrillers where sentient A.I robots turn on us. In 2001 a space odyssey we see HAL wiling to murder his crew member in the name of mission optimation and self preservation. Today we have hit shows like WestWorld, where a group now self aware A.I androids have begun a revolution for independence and revenge against humanity. There are even humorous movies like the Disney's Channel special Smart House, where a shockingly accurate house of the future turns on the family living there as a means of protecting them from themselves.

It's hard to say whether the public's distrust in AI is a reflection of Hollywood, or Hollywood's AI thrillers are a reflection of the Public's distrust. I often hear people talk about the anxiety they get from just the thought of being in a self driving car. At the same time most people don't lose sleep over having an AI co-manage their 401K. Some people go as far as to spend their hard earned cash outfitting their homes to be controlled by a personal assistant AI like Alexa, Siri or Google Assistant. Just like Smart House. Even now I put blind faith in the facial recognition AI in my phone to protect my personal data.

So where is the disconnect? Why do we trust some AI and fear others? I think it comes from a gross misunderstanding about what AI is. Based purely on buzz headlines and movie plots, AI seems like a human brain being grown in a petri dish of code. By this logic cars driving

like humans all on their own is AI while a small robot that finds the most efficient way to vacuum your floor is just human innovation. While in reality the two use very similar AI algorithms. Our definition, where AI is simply a computer reaching human levels of intelligence, severely limits our ability to grasp the big picture.

According to Umass someone with a high school math level education would have to take a half dozen math class and a couple coding classes in order to have the knowledge required to grasp AI. So it makes sense that the journalist and Hollywood producers mediating public perception of AI aren't exactly painting the most accurate picture. Most articles I see about AI seem almost purposely misleading in order to gain clicks. For example this article on making evil AI's by training them entirely on NSFW reddit threads (https://preview.tinyurl.com/u24pj3b). But despite all the misinformation and complexity surrounding the buzz term, AI can actually be boiled down into a very digestible content.

AI can be achieved in a variety of ways, but the idea is generally the same. Plug in some possible inputs and the desired output, and in return you get an algorithm. An Algorithm for those of you that dont know, is a systematic way of doing a task. A classic example of this is cashiers. If the cashier isn't given enough money, ask for more, repeat until they have enough, if too much is given, return change and a receipt. Find a way to encode this algorithm in a math that computers can understand, and walla, you have vending machines. AI is not only capable of delivering these algorithms, but it can change them dynamically. Meaning instead of a vending machine that just sits there as you bang on it out of frustration, when your beloved snack gets stuck. It changes the process in which it operates, in order to encompass this problem with a solution. To be perfectly clear AI doesn't think to itself "Hey this guy is mad, oh

because his snack is stuck, let's give him a refund". It is more like by trial and error thousands of times until it discovers a correlation between stuck snacks and frustration, and a separate correlation between refunds and that frustration dissipating. Then matches that problem with that solution. This AI training usually happens behind closed doors making it seem like magic. But its not, in fact it's been around since the 60s. I don't want to downplay AIs achievements. Under the hood AI is mind blowingly complex, but it's far not a binary god in a box. This is probably ignored by the media either because there is a genuine lack of understanding or simply because the headline "Scientists have perfected an algorithm that produces algorithms" isn't exactly sexy.

An AI that has the perfect natural language processing (processing human speech and writing) algorithm pales in comparison to a charming sentient phone operating system voiced by Scarlett Johansson. But I would argue that the world we live in now is much more exciting than that of the universe the movie Her takes place in. And in some ways much more terrifying than any fictional AI universes. If you haven't seen Her, it's a movie about Theodore, a greeting card writer living in Futuristic LA. In short Theodore falls in love with the sentient AI that runs his phones operating system. Spoiler they date, she dumps him. Sounds like a comedy go watch it. It might change your mind. Samantha the name of the OS, appears just as clever, creative and full of velleity as any human. She passes the Turing test (the test of how a human computer feels) so well, that he begins to see her as "real". This begs the question, why does he still have a job? If she can hold a conversation that convinces him she's human enough to love, then why couldn't she just write cards that other people perceive as human written. She could do more work in 10 minutes than he could in 10 years, all at the price that was according to the movie an impulse buy for Theodore. Why would his company not just replace the whole company with a

cheap OS. Why stop there, any job that could be done by human thinking (so all of them), could just be replaced by AI in this universe.

The AI expressed in Her and other SIFI universes with sentient AI is called General AI. This differs from the AI we have now, which is Narrow AI. Narrow AI is as explained above as good at finding an algorithm for a one particular task, like figuring out the word you wanted to spell during a spell check (NLP). Sometimes we pair up multiple Narrow AI to perform a more complex task like driving, where a driver needs one algorithm to decide if there is an obstacle or not, and another to decide how much gas or brake to give. A General AI would be the one ring of AI. An AI that could drive a car then read a book and finish the day solving some unsolvable equation. A General purpose AI is far beyond what we have now but still wouldn't be the same as a SIFI AI that can love compassionately or have epiphanies. But just because we don't have General purpose AIs or phones capable of replacing human interaction, doesn't mean AI we have know isn't terrifyingly powerful

The Tesla Roadster can potentially get all of its power from the sun. It can drive itself, and has a top speed over 250 mph. But its not seen as the future because it's not the flying car the Jetsons promised us. The same goes for Siri. We take that tech for granted because it's not the sentient AI the movies promised. But Siri is closer to the OS from Her than we think. Will people be dating their Siris in the future? Highly unlikely. Will tech like Siri be replacing people like Theodores jobs? Almost certainly. Imagine how many jobs are almost purely natural language processing, secretarys, sales, customer service, etcetera etcetera. These jobs account for roughly 23.1 million jobs in the states, and accounting for 14 percent of Americans. Now look at the transportation like truck drivers and taxis that make up another 1 percent. What

are the long term effects of a 15 percent increase in unemployment? For reference unemployment rose up by 7.2 percent during 2008 housing crisis.

There are way more Narrow AIs then just natural language processing and self driving technology. Simulation and Animation software has come along way as well. We don't have AI robots that can blend into society like in WestWorld or Ex Machina. But we are dangerously close to being able to create videos of anything we can imagine and have it be as real as if it was really happening. Imagine a video was leaked that seemed to be undeniably the president doing something scandalous or threatening on a global scale (I know far fetched). Something like that could be made on a computer with AI for very little cost and could cause mass hysteria, rapid stock fluctuations, and future distrust in all possibly valid media forms. Within a couple days it could be proven fake but the damage would have been already done.

SIFI thrillers like the Terminator and IRobot misrepresent AI to be anthropomorphized hyper intelligent threats. Which is not wrong because SIFI is fiction, and is there to dream up fake reality. But they create a misunderstanding about what AI is. The future of AI won't be human. It won't be a threat in the way a hyper intelligent human like computer would be. Nor will it have feelings and be subject to act on those feelings the way humans do. SIFI for the most part being the only representation of AI creates an expectation of what AI is and will be. This leaves us blind to how powerful the AI we already have is and the more realistic threats it holds.

Work Cited

Barsanti, Sam. “MIT Scientists Created a ‘Psychopath’ AI by Feeding It Violent Content from Reddit.” *News*, News, 7 June 2018, news.avclub.com/mit-scientists-created-a-psychopath-ai-by-feeding-it-1826623094.

Goldman, David. “Worst Year for Jobs since '45.” *CNNMoney*, Cable News Network, 9 Jan. 2009, money.cnn.com/2009/01/09/news/economy/jobs_december/.

U.S. Bureau of Labor Statistics, U.S. Bureau of Labor Statistics, 30 May 2019, www.bls.gov/opub/ted/2019/pilots-and-air-traffic-controllers-were-highest-paid-transportation-workers-in-may-2018.htm.