Everything I Knew about AI Yesterday

By
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In 2018 I attended Singularity University, tellingly located in Silicon Valley, the tech capital of the world. SU, founded by philanthropist/entrepreneur Peter Diamandis and futurist Ray Kurzweil, focuses on the principles of exponential technological change and of abundance. Exponential change, as it sounds, makes the point that change happens at increasingly faster rates. Kurzweil, author of *The Singularity is Near*, says this will make the advances occurring during the next 100 years look "more like 20,000 years of progress"[1] at today's rate. Diamandis, who is extremely optimistic about the future, talks a lot about using technology to create a world of abundance that uplifts every man, woman, and child on the planet. Hence, "Each year," he says in his book, *Abundance: The Future is Better than you Think*, "the [Singularity University] graduate students are challenged to develop a company, product, or organization that will positively affect the lives of a billion people within ten years."[2]

I consider my brief time at SU among the most inspiring, hopeful, and transformative of my life. One of the many valuable lessons I learned is that it's the responsibility of today's leaders to teach others to best cope with living in a world of exponential change—change happening so fast that it's difficult to keep up with. Human beings, like all other creatures, are creatures of habit. Our bodies and behaviors and psyches have been shaped by habit through the course of millions of years of evolution. This is why, like most creatures, we're naturally averse to and fearful of change. Repetition is safe. The more often something doesn't harm us, the more likely it never will. The more our environments stay the same, the safer we feel. So, we usually prefer to stay with the tried and true.

This conservative instinct is fine in a world of biological evolution, in which it takes eons for changes to occur. But with the pace of today's technological changes, which are evolving right in front of us, the world feels more chaotic, uncertain, and frightening than ever before, at least for many. This is why I want to talk about Artificial Intelligence today, because this revolutionary technology is going to change our lives and world so dramatically and so quickly that it will not be humanly possible for us to keep up with it. Hence the title of my talk, "Everything I knew about AI Yesterday." It is a big subject to begin with, far beyond my scope of expertise, and one which could go in many directions, but because it's improving so quickly, doubling in power every six months or less, it is not possible for anyone to keep up or say much about it that isn't already yesterday's news.

The first sermon in which I ever mentioned AI was shortly after Watson, IBM's supercomputer played *Jeopardy* in 2011 and beat the television gameshow's two greatest human players ever. Back then I used the line, "Watson may know Jack, but Waston doesn't know Watson." What I meant was the supercomputer had a lot of data it could process in a split second, but it wasn't self-aware." This is still the case. AI isn't conscious. If you don't believe me, just ask ChatGPT. In fact, I did. Here's what it said, "No, AI, including the model

you're communicating with (me, ChatGPT based on the GPT-4 architecture), is not conscious." It then listed four reasons for saying so (if only humans were logical enough to provide the reasons for their thinking). The reasons are, it has no subjective experience, is purely computational, has no desires or intentions, and lacks understanding.

I responded, "Thanks. I knew that, but I'm writing a sermon on AI and thought it might be nice for my audience to hear it straight from the horse's mouth, so to speak 😊." ChatGPT replied, "That's a creative approach! Addressing topics like AI from multiple perspectives, including directly referencing AI-generated content, can be both engaging and enlightening for your audience. If you have any other questions or need further insights for your sermon, feel free to ask. Best of luck with your presentation! 😊" Not a bad response for something that "lacks understanding."

Even if it's not conscious, it has advanced leaps and bounds since 2011, mostly within the past few months, or is it during the past few days? It's happening so fast, it's difficult to know.

In 2016, only five years after Watson played *Jeopardy*, Google's deep learning computer, AlphaGo beat the world's champion at a game of Go, "a board game more complex than chess by one million trillion trillion trillion trillion times."[3] Most remarkable was that AlphaGo was NOT programmed with the rules to the game but taught itself to play through a process of trial and error called "deep learning." Within hours, it went from knowing nothing about the game to becoming its world champion. That was a breakthrough because it marked an era in which computers can essentially program themselves, and today they can do so a lot better than in 2016, which is now ancient history in terms of computer evolution.

In March of this year, for instance, only five months ago, I heard Emad Mostaque, CEO of Stability AI, tell and audience, "By the end of next year you'll have ChatGPT on your mobile phone without internet." In near disbelief, host Peter Diamandis had to ask Mostaque to repeat himself. The reason it will be possible for this tech to be used without accessing the internet is because Stability AI has developed a means of compressing a hundred terabytes, one thousand gigabytes of images, that's two billion images, "down," in his words, "to a two-gigabyte file that can create anything," further predicting it will get down to only a hundred megabytes, a size that can currently hold about a 50 second video. This means, even without access to the information on the internet, which may also soon be ancient history, we'll have to start calling our smart phones, genius phones. Just imagine how such technology will unleash, enhance, and equalize the knowledge and creativity of people everywhere, even some of the poorest and most disadvantaged among us.

So that's two of the major changes in Artificial Intelligence since Watson won Jeopardy in 2011—deep learning and compression. The third major advance is convergence. Convergence is what happens when things that were once separate come together to form a more complex whole. It's how things evolve, including technology. AI began to make serious advances in 2017, for this reason. Prior to then, AI developers working in various areas like speech synthesis, speech recognition, image generation, computer vision, music generation,

and robotics were all working separately from each other and had different methods. Their skills and knowledge were not easily transferable from one area to another.

But in 2017, information theory was applied to all these fields and suddenly everything—images, sound, biology, code, numbers, robotics—got boiled down to language, to bits of information, so that all these areas could be translated into another because they were all made of the same stuff. This has led to what is called Generative AI. With a one or two sentence prompt comprised of text, you can get ChatGPT to write an essay, a poem, a song, a story, an outline, you name it. But there are other AI programs you can prompt with texts that are then translated into music, or pictures, or video, or narration, or computer code, and so on. When everything is translated into bits of information, those bits can easily be transformed into just about any medium.

At the 2023 Abundance 360 conference this past March, Peter Diamandis noted that AI has already been around for 67 years, asking, "So why is it happening now? Why now?" He says it's because of four factors. First, the law of accelerating returns—exponential growth, that is. AI has been doubling in power every year for nearly seven decades. Remember, the example of putting a grain of rice on the first square of a chess board then doubling the amount on every other square adds up to more grains of rice than there are in China—18 quintillion grains. And that's to the 64th power. Two-to-the-67th power is almost 148 quintillion! That's the law of accelerating returns and that's why we're suddenly noticing AI, because it has become so much more powerful in a very short time.

The second reason is the amount of data in the world has also been doubling for many years. Diamandis says it's so big we're about to introduce a new term, a yottabyte. That's two-to-the-80th power, a million-trillion-megabytes of information that AI now has the power to peruse and interpret it in only seconds. The third reason, Diamandis says, is that the cost to train AI plummeted 99 percent during the last five years. That's something else that's true of exponential technology, it not only becomes more powerful, but becomes cheaper and smaller, which makes it accessible to billions of people. The fourth reason, he says, is that corporate investment in AI has gone from $20 billion annually in 2013 to over $160 billion today. It will be over $1.6 trillion by 2030. No wonder Diamandis's says, "There can be two kinds of companies at the end of this decade. Those that are fully utilizing AI, and those that are out of business."

ChatGPT, which has only been with us since last number, has since passed the U.S. Medical Exam and the Bar Exam, and lots of other exams. Considering this, I also asked ChatGPT if it can pass the Turing test. "The Turing Test," ChatGPT explains, "as proposed by Alan Turing in 1950, is a test of a machine's ability to exhibit human-like intelligence, specifically the ability to generate responses that are indistinguishable from a human's … while I can generate very human-like text and can fool some people in brief interactions, it's likely that in extended or deeper conversations, my limitations will show. This is especially true when the conversation touches on emotions, personal experiences, or when it requires deep understanding rather than surface-level information processing." With responses like this,

humble as ChatGPT sounds, it's no wonder Ray Kurzweil—whose predictions are 86 percent accurate—says we'll have human level AI intelligence six years from now, and superhuman shortly after that.

It took Netflix 3.5 years to get a million users. It only took Facebook ten months, and Instagram two and a half months. It took ChatGPT five days! It had a hundred million users in two months. In a few years, or maybe just months, the Internet may go away. We'll just ask AI for everything we need and, rather than going to it just for information, it will become a constant assistant in our lives.

It took the Linux open-source operating system twenty years to get the number of users that it's taken Stability AI five months to get. Stability AI is also an open-source platform that translates text to images. When it launched in August of 2022, it went from generating an image from text in six seconds to sixty images a second in just eight months—that's exponential change. I just tested it out for the first time yesterday, asking Stability AI to create an image of, "a robot taking care of a baby." Here's the image I received almost instantly >

It's not a photograph selected by the AI but was completely generated by it. And at sixty frames per second, we're talking about the ability to create high quality video. The company's founder, Emad Mostaque, who predicts there will be no computer programmers necessary five years from now, says, "It's the biggest change in society ever … Any of you can now be creative. Any of you can now build systems. And so you build the systems that adhere to the unchanging demands of people, to make their lives better. And that's value and they'll pay you for that value."

There will be a lot of benefits to AI, but we also have to consider some of the concerns and fears about it. There are already lots of frightening reports in the news and on YouTube predicting it's going to take over the world and wipe out humanity. I heard Bill Maher talking about it with Elon Musk not long ago, in which he asked, "If you make things that are way smarter than you, why wouldn't they become your overlords?" This question reflects the concerns of many but does not reflect what we should really be worrying about, which is how humans will abuse this tool to deceive and take advantage of other humans. I liked Musk's response, "I just think we should have some sort of regulatory oversight." Regulatory oversight is a reasoned response to a tool that can be abused, but not to something that is going to become conscious and wipe out humanity, and I think Musk's attitude is proper for

the level of legitimate concern here, the potential for some people to abuse this technology. I'm also befuddled that so many people are worried about AI destroying the world as we know it when *we* are already destroying the world as we know it! If anything, AI can become a powerful partner in helping stop and reverse Global Warming.

As I said, there are lots of people making dire predictions about AI leading to a real-life *Terminator* situation. One of those who has been getting a lot of media attention is Mo Gawdat, a former executive at Google. I've taken him more seriously than some others because he was recently interviewed for over an hour by Peter Diamandis, who, conversely, is very optimistic about AI. That he respected Gawdat enough to hear his concerns made me take notice. Last week I watched a shorter interview of Gawdat on a Sky News Australia report. Here's some of what he had to say:

> We've never had an avalanche approach us that's bigger than this … let me state it bluntly, the age of humanity being the superior intelligence of the planet is over. Some of the estimates are that AI will be a billion times smarter than humanity by the year 2045 … A hundred percent! "Could we," is not the question … We've created our next master. We have created either our salvation or destruction. We are at the point in human history where we are handing over control to machines … We messed up badly."

These can be frightening claims coming from one with Gawdat's credentials, one who helped create this technology to begin with. But there's nothing in the report explaining why he believes any of these things about AI, nor why we should believe him. The report was based on a four-minute edited version of what I'm guessing was a longer interview, so maybe his reasons got cut out. But this was the same issue I found in his longer-form interview with Diamandis: Gawdat, like many people, too often states his beliefs without offering any of his reasons for them. Without giving his reasons, his claims are unreasonable and as unsubstantiated as many of the fear-based claims and conspiracies that abound these days.

Again, AI, like any technology, can and will be used for both good and bad, but we already have a very real apocalypse of our own making to address. We should regulate and legislate AI appropriately, but not turn its existence into another paranoid conspiracy theory. That's my two cents, although, admittedly, I don't have the credentials Mo Gawdat has when it comes to addressing this topic.

I can't even begin to cover all the potential benefits of AI, a fraction of which include highly accurate medical diagnoses along with astonishing medical advancements, education tailored to the needs of individuals, solutions to major problems like homelessness and Climate Change, smarter cities, predicting natural disasters in a timely manner, and so so much more! Instead, I want to begin to close with an example of how I've recently been using AI.

Three weekends ago, while I was away in Colorado, I created fifteen videos—2.5 to 3 minutes each—for my new YouTube Channel called, *Philosophy in a Nutshell*. It was a busy weekend, and I was only able to work on these videos in my spare time. But they each took only minutes to complete. With my own prompts, I used ChatGPT to write the scripts, and Pictory

AI to provide the music, voiceover, and video. I used my own editing skills to lengthen some of the clips and to choose different clips than those first suggested. These first several videos are about the Early Philosophers—my favorites—along with Socrates and Plato. I intend to eventually have one for each of the western philosophers.

Here's the link should wish to see some of these videos:

https://www.youtube.com/channel/UCJr4no2UXYcG9313ulD4Zjg

I think I'm supposed to say please remember to subscribe.

What I have found is that when searching for information about AI in general there's a lot of fear. But when searching for information about how to use it for creative purposes, there's nothing but enthusiasm. AI is not only making my life easier, as it is for other creators and developers, but also more productive, enabling me to take on creative projects I never dreamt I'd have time for. And this is just the beginning.

For now, I want to close with one more example of how this technology can be used. I asked Stability AI to predict who will be the next President of the United States. Here is its response:

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Just kidding. I prompted Stability AI to generated a picture of a robot sitting in the Oval Office 😊

[1] http://www.kurzweilai.net/the-law-of-accelerating-returns
[2] Diamandis, Peter H., & Kotler, Steven, *Abundance: The Future is Better than You Think*, Free Press, New York, NY, 2012, p. 73.
[3] Lee, Kai-Fu; Qiufan, Chen. AI 2041 (p. xi). Crown. Kindle Edition.