

Artificial Intelligence and the Future of Asset Management

30 May 2019

For all of you out there who are nodding along with all the talk of AI, machine learning, Blockchain, and Human-In-The-Loop systems, but really having no idea what's what, take heart, you're not alone.

Dr. JT Kostman is one of the world's leading thinkers on Artificial Intelligence, and even he admits he's not 100% sure what it means.

"My best definition of AI is 'getting computers to do the kind of stuff they do in the movies and on TV'. Getting computers to understand us, to be understood by us, to do the kind of things we wish we didn't have to do that computers can do on our behalf".

Dr. Kostman gave the keynote address at [Mainstream Conference](#), detailing the implications of AI for asset management professionals. As one of the world's leading Data Strategists and experts in Applied Artificial Intelligence and Cognitive Computing, his credentials speak for themselves – JT has two PHDs, has served as Chief Data Scientist for Samsung, and Chief Data Officer for Time Inc. He's also hunted terrorists for the F.B.I and led the social media analysis for the 2012 Obama Campaign.

In this excerpt from his keynote address, he sets the scene for the AI landscape today and why it is what he calls the "largest economic shift in the history of the world".

Artificial Intelligence - Dr JT Kostman

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3 Forces Making AI Possible

There are three aspects of computing that enables AI:

1. Size

The size of the data that is available to us now is what makes AI possible. “Data is to AI as water is to fish: Without data AI can’t exist”. According to Kostman by 2020 we’re going to have 40 zetabytes of data available for analysis. (And if you’re wondering how much that is, here’s a simple way to work it out: Count every grain of sand that exists in the world and multiply it by 75. Suffice to say, it’s a lot!)

2. Speed

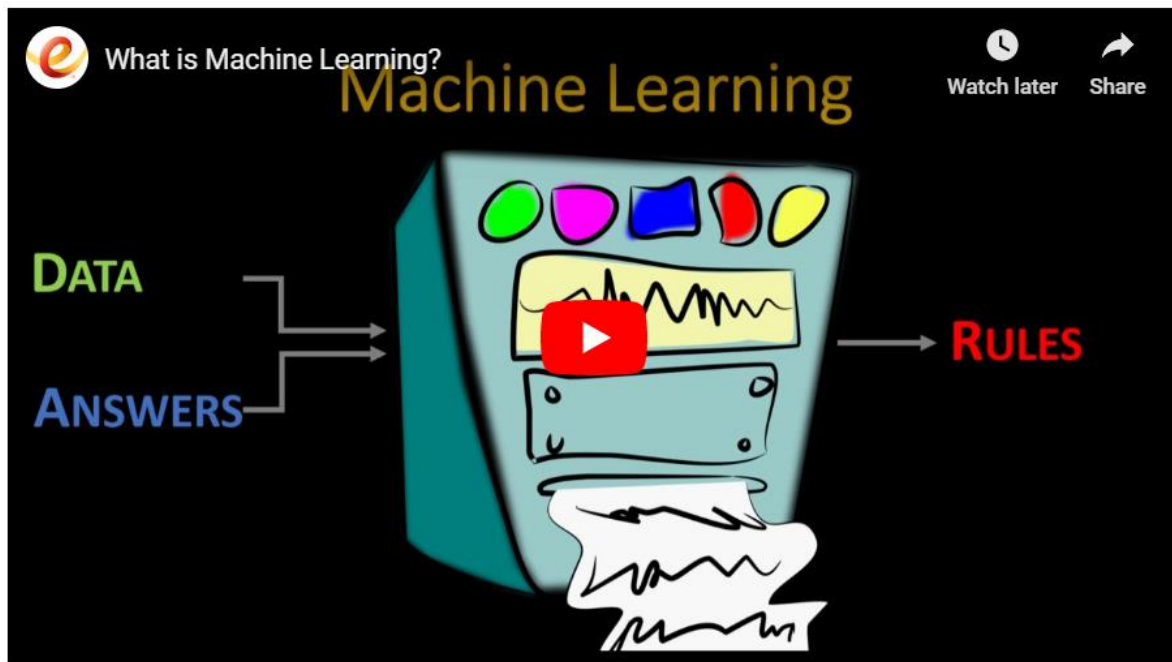
You can currently buy a chip for your laptop for around \$1,000 that operates at one teraflop – that’s 1 trillion floating operations a second (a floating operation being something like calculating the square root of 540,006). Even if you were somehow able to solve one operation a second, this would still take you 31,700 years to calculate a trillion of these. And that is just consumer grade technology – things get exponentially faster when you start looking at what large corporations are able to do with sizable investment into this technology.

3. Sophistication

The sophistication of the algorithms we’re using now is by far the most important and impressive force driving AI. “The most enabling and elegant ideas in science are now being manifested in machine learning”. To put this in context, if a car that was made in the same year as Intel’s first microprocessor (1971) had had the same technological advances applied as the microprocessor, it would be able to go 400,000 km/hour and it would cost about 3 cents to buy. That would be one hell of a car! Technology has progressed at a rate that is nearly incomprehensible.

Machine Learning: A Simple Yet Sophisticated Art

Kostman says that machine learning accounts for around 90% of what we regard as AI today. And it’s a lot simpler than you might think. Watch this excerpt from his session at Mainstream Conference for a straightforward yet comprehensive explanation of machine learning.



[Watch video](#)

So the natural question is “should we be fearing machines? Are they going to be replacing us?”

“Yes, there is a real threat”, says Kostman. But the upside is that computers have strengths and weaknesses just like us. “There’s a force at play known as Morevec’s paradox. Morevec’s paradox (in plain English) is that computers are really good at things that human’s suck at, and humans are really good at things that computers suck at” he says.

Fortunately for us though, computers thrive on the jobs that we don’t typically like – tedious, repetitive, and very detailed tasks. So while there is a threat of task redundancy, it’s likely they are the kind of tasks we don’t necessarily want to do.

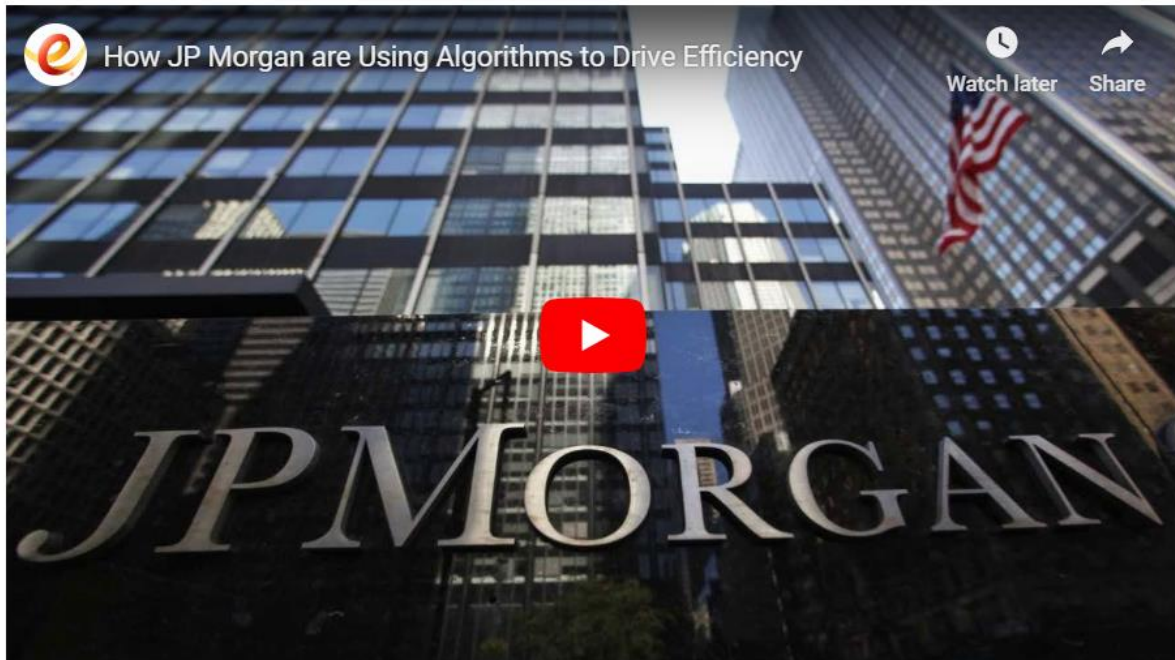
In this article [Robots Will Never Take This Job!](#) which Kostman wrote as a very sweet homage to his wife who is a nurse, he outlines why computers will never be able to truly replace some jobs. It comes down to our humanity, “AI is capable of many things – but it is not, nor will it ever, be capable of humanity,” he says, “silicon circuits will never be able to provide the kind of humanity that truly distinguishes man from machine.”

Kostman believes that instead of getting computers to work for us, we’re going to be forming partnership with machines. “We’re not just going to be telling machines to do things, we’re going to be working symbiotically with us, it’s what I refer to as “Symbiotic AI”, working together to come up with better, faster, more accurate solutions”.

Kostman says that to survive, or event thrive, in this age of artificial intelligence, we need to abrogate the aspect of our lives that is machine oriented. “Take advantage of Morevec’s paradox and give the machines the tasks they do best. Focus on the “human” part of your job – fortunately for most of us that’s the part of work we love – collaboration, being creative, being thoughtful, being humane.”

Productivity Gains are There for the Taking

We have the opportunity through AI to augment and supplement our work and this has a profound effect on productivity. Watch this clip from JT Kostman's keynote at Mainstream Conference as he gives an example of how JP Morgan are using a simple algorithm to cut out 360,000 hours of work to just 3 minutes of computer time.



[Watch video](#)

AI technology will benefit the asset management industry in powerful ways. “Getting machines to collaborate, to coordinate, to self-diagnose, to be able to tell you when and if they need their oil changed and why, to be able to give you the inputs into why they might break down is going to be a fundamental shift in the way we run our businesses,” he says. However, being able to get people to work with machines, in true symbiotic relationships – that is going to be the next evolution in AI according to the experts.

Kostman ends on a note of warning. “The AI space is full of people trying to tell you that AI solutions come in a box that you can plug in and play. Don’t fall for it. It turns out that AI is simple, yet not easy. If you want to win, step out of the dark and plug in to the opportunities that are around you”.

Hear more from the boldest innovators in the Asset Management world at [Mainstream Conference](#).

About the Speaker



Dr JT Kostman is a Data Scientist, Mathematician, and Psychologist and one of the world's leading experts in Applied Artificial Intelligence. JT has hunted terrorists for the CIA; tracked criminal networks for the FBI; and served as Chief Data Scientist for Samsung, and Chief Data Officer for Time Inc.