

Artificial Intelligence Trends That Will Dominate 2018

Everyone is talking about machine learning, deep learning, and AI. Here are five AI trends to watch in 2018

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The practical applications of machine learning, deep learning, and AI are «everywhere and out in the open these days (including the make and model of passing cars) to deliver targeted advertisements.

Cutting through the hype with our practical guide to machine learning in business and find out whether your organization is truly ready for taking on artificial intelligence projects.

So where will these frameworks and tools take us in 2018? As already foreseen in the recent issued

*** Enterprises will operationalize AI**

AI is already here, whether we recognize it or not. Many organizations are already using AI, but they may not refer to it as «AI, «For example, any organization using a chatbot feature to engage with customers is using artificial intelligence.»

But many of the deployments leveraging AI technologies and tools have been small-scale. Expect organizations to ramp up in a big way in 2018. Enterprises have spent the past few years educating themselves on various AI frameworks and tools «But as AI goes mainstream, it will move beyond small-scale experiments to being automated and operationalized. As enterprises move forward with operationalizing AI, they will look for products and tools to automate, manage, and streamline the entire machine learning and deep learning life cycle.»

It is predicted that 2018 will see an increase in investments in AI life cycle management, and technologies that house the data and supervise the process will mature.

*** AI reality will lag the hype once again**

There have been repeated predictions for several years that tout potential breakthroughs in the use of AI and machine learning, but the reality is that most enterprises have yet to see quantifiable benefits from their investments in these areas.

Chen says the hype to date has been overblown, and most enterprises are reluctant to get started due to a combination of skepticism, lack of expertise, and most important of all, a lack of confidence in the reliability of their data sets.

In fact, while the headlines will be mostly about AI, most enterprises will need to first focus on IA (information augmentation): getting their data organized in a manner that ensures it can be reconciled, refined, and related, to uncover relevant insights that support efficient business execution across all departments, while addressing the burden of regulatory compliance..

It is agreed in many research works that 2018 will see a backlash against AI hype, but believes a more balanced approach of deep learning and shallow learning application to business opportunities will emerge as a result.

While there may be a backlash against the hype, it would not stop large enterprises from investing in AI and related technologies.

Meley points to Teradata's recently released 2017 State of Artificial Intelligence for Enterprises report, which identified a lack of IT infrastructure as the greatest barrier to realizing benefits from AI, surpassing issues like access to talent, lack of budget, and weak or unknown business cases.

«Companies will respond in 2018 with enterprise-grade AI product and supporting offerings that overcome the growing pains associated with AI adoption,» Meley says.

*** Bias in training data sets will continue to trouble AI**

Enterprises need to get their data in order, which is a driving force behind the open source Apache Arrow project, believes a debate about data sets will take center stage in 2018.

Everywhere you turn, companies are adding AI to their products to make them smarter, more efficient, and even

autonomous. In 2017, competing arguments for whether AI would create jobs or eliminate them, with some even proposing the end of the human race. What has started to emerge as a key part of the conversation is how training data sets shape the behavior of these models.

It turns out, that models are only as good as the training data they use, and developing a representative, effective training data set is very challenging.

Humans are hopelessly biased, and the question for AI will become whether we can do better in terms of bias or will we do worse. This debate will center around data ownership – what data we own about ourselves, and the companies like Google, Facebook, Amazon, Uber, etc. – who have amassed enormous data sets that will feed our models.

*** AI must solve the 'black box' problem with audit trails**

One of the big barriers to the adoption of AI, particularly in regulated industries, is the difficulty in showing exactly how an AI reached a decision, therefore, creating AI audit trails will be essential.

AI is increasingly getting used for applications like drug discovery or the connected car, and these applications can have a detrimental impact on human life if an incorrect decision is made. Detecting exactly what caused the final incorrect decision leading to a serious problem is something enterprises will start to look at in 2018. Auditing and tracking every input and every score that a framework produces will help with detecting the human-written code that ultimately caused the problem.

*** Cloud adoption will accelerate to support AI innovation**

Enterprises in 2018 will seek to improve their infrastructure and processes for supporting their machine learning and AI efforts.

As companies look to innovate and improve with machine learning and artificial intelligence, more specialized tooling and infrastructure will be adopted in the cloud to support specific use cases, like solutions for merging multi-modal sensory inputs for human interaction (think sound, touch, and vision) or solutions for merging satellite imagery with financial data to catapult algorithmic trading capabilities.

It is expected to see an explosion in cloud-based solu-

tions that accelerate the current pace of data collection and further demonstrate the need for frictionless, on-demand compute and storage from managed cloud providers.

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* Top Trends of Mind When Crafting an AI Strategy

According to a survey of 83 Gartner clients, 60% of respondents reported to be in an AI «knowledge-gathering phase,» 25% said they are piloting an AI solution and a mere 5% of respondents said they have implemented an AI solution.

* Natural and contextual interfaces

New interfaces will dramatically change the way consumers and employees access computing resources, Andrews said. Specifically, the new wave of interfaces relies on natural language processing and generation, visual analytics and gesture interpretation -- technologies powered by AI. They will play an increasingly important role in enterprise interfaces.

In a client example Andrews titled the «Warehouse of Babel,» artificial intelligence is bridging a language barrier for a European-based warehouse. The warehouse is now using a natural language interpretation system so that employees, who come from all corners of Eastern Europe, don't have to speak the same language to communicate or access applications «in a comparatively unified way,» Andrews said.

These natural and contextual interfaces are being em-

bedded into consumer products right now -- Amazon Echo and Google Glass are two examples. As these offerings proliferate, they will raise employee expectations for workplace tech, Andrews said, with good reason. «[These new interfaces provide] a more effective way of allowing people to use AI as a means of interacting with content, with social situations and systems, with business applications, with data and with documents,» he said.

* Smarter IoT and better application integration

AI capabilities are being embedded into the internet of things (IoT) devices that operate on the computing edge, but those capabilities will be limited. Model building with AI will happen elsewhere, but runtime analysis and «interaction into action models» that provide, say, visual analysis can live on an edge device, Andrews said.

AI technologies affect all corners of business, IT

For example, Raspberry Pi, an inexpensive microcomputer, can use basic visual analytics to recognize colors and shapes. And in the Warehouse of Babel example, Andrews said the client is looking to invest in a visual analytics application to more efficiently load shipping containers and reduce unused space. «I think of this as being like Tetris,» he said.

Indeed, Gartner predicts that by 2022, more than 80% of enterprise IoT projects will have an AI component. That's up from less than 10% today.

Companies are also beginning to integrate AI into existing applications to create a more fluid experience, predominantly for customer-engagement applications and call center service and support applications, according to a Gartner survey.

The net effect? It's the beginning of «an AI ecosystem that is intriguingly complex,» Andrews said. He expects the pattern to continue, especially for early adopters who, according to a Gartner prediction, will use four virtual personal assistants on average by 2022.

* Rise of AI-enabled computing ecosystems

AI-powered applications will be able to tell each other what they need to meet a goal without human interaction. But to create this kind of commonplace AI, application diversity is crucial. «In any ecosystem, strength comes from that diversity and from multiple perspectives,» he said. «It's something extraordinary that allows a system to be resilient.»