Emerging trend in Artificial Intelligence

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ABSTRACT

Artificial Intelligence (AI) - a revolutionary world has entirely captured our day-to-day lives. It is the unique combination of minds and the machines. With the past couple of years, there occurred gradual increase in Artificial Intelligence, spreading its root in almost all the fields. New inventions and advancements have been done which are based on AI. The applications of AI are not limited to certain area but from a minute thing to an innovative development, there exists AI. There are numerous technologies, gadgets which have been developed leading to a new world and even some new innovations yet to come. Thus it provides an automated path leading to a bright future. In this paper, we have presented a detailed survey of all the innovations and current trends in Artificial Intelligence.

1. Introduction

Artificial Intelligence (AI) has the peculiar ability to simultaneously amaze, enthrall, leave us gasping and intimidate. The possibilities of AI are innumerable and they easily surpass our most artistically fecund imaginations. What all we read in science fiction novels or saw in movies could someday materialize into reality. Bill Gates, the founder of Microsoft, recently said that 'AI can be our friend' and is good for the society. From decision-making to computing to robotics to vehicles and even cosmetics, AI has left its mark everywhere and it will usher in the grandest social engineering experiment in the history of the world.

AI has shown immense potential to make our lives much easier, a fact which does not stop in our homes, as businesses constantly come up with new ways to use AI to engage with customers, make processes easier and pull revenues to new highs. The effectiveness and popularity of AI-powered chat bots in recent years has catapulted an increased interest in how artificial intelligence is deployed to improve the results of ad campaigns.

Forrester Research says that 2019 will see the rise of new digital workers with an increased competition for data professionals with AI skills.

Let's have a look at the some trends in AI that will have a huge impact in years to come.

2. **Battlefields in the age of AI**

The wars of the future will rely on smart technology like never before. Drones are just the beginning. With the increasing convergence of conventional defense, surveillance, and reconnaissance with cyber security, the need for algorithm-based AI only expands.

Cyber security is a real opportunity area for AI since attacks are constantly-evolving and the main challenge is new forms of malware. Prima facie, AI would have an extra edge here given its ability to operate at scale and sift through millions of incidents to identify aberrations, risks, and signals of future threats.
The market is mushrooming with new cyber security companies trying to leverage machine learning to some extent. A total of 134 startups have raised $3.65B in equity funding in the last 5 years. About 34 of them raised equity for the first time last year to compete in a market still dominated by larger companies like Cybereason, Crowd Strike, Cylance, and Tanium.

3. **Voice Assistants**

Voice-enabled computing was all over at the Consumer Electronics Show in 2018. Barely any IoT device was without integration into the Amazon Echo or Google Home.
Samsung is also working on its own voice assistant, Bixby. It wants all of its products to be internet-connected and have intelligence from Bixby by 2020.LG made all of its appliances in 2017 WiFi-enabled.

4. **Convergence of AI and other emerging technologies:**

This would see more examples of the convergence of AI with IoT and AI with Blockchain.
In fact self-driving cars is not a practical possibility without IoT working closely with AI. The sensors used by a car to collect real-time data is enabled by the Internet of Things (IoT) and the programs used for decision-making is powered by AI models.

Deep learning AI algorithms then take action as well as make decisions using this data. Some of them include path planning, eye-tracking to improve driver monitoring, natural language processing to understand voice commands and maybe even self-direct itself to a gas station when running low on fuel.
The other powerful feature that these autonomous vehicles would have is the ability to communicate with each other so that traffic as a whole is optimized.
Another integration of disruptive technologies is Blockchain and AI. We are well aware that Blockchain has challenges such as security and scalability and AI suffers from privacy and trust issues; these two can be combined to address these issues. Blockchain can power decentralized data marketplaces and help AI algorithms to be more transparent and trustworthy.
There are several startups paving this way to democratize the AI training datasets.

For example, Enigma is a startup that allows organizations to a secure data marketplace that users can subscribe to and consume via smart contracts.

5. **Facial recognition**

Whether it is Google winning the recent lawsuit or China's SenseTime, Facial recognition has received a lot of negative press recently. However this technology would continue to grow in 2019. Facial recognition is a form of artificial intelligence application that helps in identifying a person using their digital image or patterns of their facial features. 2019 would see an increase in the usage of this technology with higher accuracy and reliability. We are already aware of Facebook's Deepface program that is used to easily tag your friends and family in your photos. The popular iPhoneX is already using facial recognition as a digital password.

With the boom in personalizing everything — from your shopping experience to advertising, this technology is going to be used more and more for biometric identification. This will continue to rise due to the non-invasive identification and the easy of deployment.

Other use cases like payment processing through security checks as well as for law enforcement (in early detection and prevention of crime) would be on the rise.
These next-generation image recognition technologies can be used for healthcare purposes as well — to follow through clinical trials as well as medical diagnostic procedures. Openwater, one the forerunners in imaging technologies, is pushing the boundaries of future devices that could read images from our brains.

6. **Robotic workforce**

It is no more a closely guarded secret that in the future much of the labor-intensive work in assembly lines of factories would be done by AI programmed robots and not workers. This would bring down the cost of hiring workers and also reduce outsourcing and off shoring.

Recently, a Chinese T-shirt manufacturer Tianyuan Garments Company signed a Memorandum of Understanding (MoU) with the Arkansas government to employ 400 workers at $14/hr at its new garment factory in Arkansas. Operations were scheduled to begin by the end of 2017. Tianyuan's factory in Little Rock, Arkansas, will use sewing robots developed by Georgia-based startup Software Automation to manufacture apparel.
In Japan, by 2025, more than 80% of elderly care would be done by robots, not caregivers.

7. **AI medical diagnostics**

Regulators in the US are looking forward at approving AI for use in clinical settings. The advantage of AI in diagnostics is early detection and better accuracy.
Machine learning algorithms can compare a medical image with those of millions of other patients, picking up on nuances that a human eye may otherwise miss.
Consumer-focused AI monitoring tools like Skin Vision — which uses computer vision to monitor suspicious skin boils — are already in use. But a new wave of healthcare AI applications will set the ground for machine learning capabilities in hospitals and clinics.

8. **Dream salaries in AI talent hunt**

As per a recent report, the approximate number of qualified researchers currently in the field of AI is 300,000, including students in relevant research areas. Meanwhile, companies require a million or more AI specialists for their engineering needs.
In US, a Glassdoor search for "artificial intelligence" shows over 32,000 jobs currently listed, with several salary ranges well into the 6 digits. Companies are more than willing to pay handsome emoluments to intelligent AI experts.

Conclusion

In conclusion, Artificial Intelligence is not going to see a decline any time soon. The growth of it continues as we enter 2019 and the focus would not only be on new technologies and applications in the industry but also how it intersects with the society and heralds in technology for the better.
Artificial Intelligence and the technology are one side of the life that always interest and surprise us with the new ideas, topics, innovations, products …etc. AI is still not implemented as the films representing it(i.e. intelligent robots), however there are many important tries to

reach the level and to compete in market, like sometimes the robots that they show in TV. Nevertheless, the hidden projects and the development in industrial companies.

At the end, we've been in this research through the AI definitions, brief history, applications of AI in public, applications of AI in military, ethics of AI, and the three rules of robotics. This is not the end of AI, there is more to come from it, who knows what the AI can do for us in the future, maybe it will be a whole society of robots.

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