

# Using Singularity in Big Data

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## ABSTRACT

Discuss how using singularity in Big data could possibly change the way big data has been using now. Many of the scientists believe by 2045 singularity will hit Information technology and computing industry when machines would be similar intelligent as humans. In this paper we tried to reach a point with the effect of using singularity in big data framework where supercomputing produces more robust process for a revolutionary change in big data environment.

## KEYWORDS

Big data, Supercomputing, Hadoop, Singularity, Deep learning, Artificial Intelligence, Machine Learning

## 1 INTRODUCTION-WHAT IS BIG DATA AND SINGULARITY

Big Data is an innovation that pushed new generation to a data centric environment where data are considered the force behind future of novelty. Big data is a term that defines the large volume of data in nature of structured and unstructured. The most advancement in big data comes in when the data is useful for the future, the accountability which leads to a better decision making with a superior prediction ability. Volume, velocity, value and variety play an important role in the concept of big data which is vastly applicable from Business usage, security, data processing to discovery process. [4] Data singularity refers to a point when machines think like Humans and reached human capabilities efficiently and effectively, the time, when machines will think analytically to process huge amount of data using supernatural computer power and deep learning neural networks. In recent advancements, we have capacity clusters in the cloud and advanced products such as Hadoop framework helps us to process gigabytes of data in a short span of time. Since data is growing exponentially there is a problem which required computing capacity largely exceeds the available resources. Early indication advises that singularity in form of Artificial intelligence can provide factual importance to serious adopters and it can be a powerful force for commotion. [4] In one way, reaching to the point where machines can be as intelligence as human brains could be life changer to the world as a whole but there are severe other consequences if not used suitably

## 2 CURRENT ADVANCEMENT OF BIG DATA AND SINGULARITY

Big data development until now shows an incredible transformation how companies store their information and use it effectively in decision making process. The overall progression of storing and leveraging the data have shifted towards a new direction where

organizations can store gigabytes of data smaller than an atom store place and use the information. Big data has been using in almost all the industries starting from Finance to personalized drug development.[5] In recently times, some of the noted big data achievements are in machine learning in Biology where machine learning and Artificial Intelligence help creating microbes [3] which support genetic coding to a gene alteration strategy in gene therapy. Machine learning and AI also create new dimensions in Cancer research by gene factor analysis which is a ground-breaking process to target only cancer cells rather than all other healthy cells. Big data and AI also discovers hidden trend from a lot of unstructured and semi structured data such as Twitter or Facebook comments where NOSQL data stores help to store the critical information to judge the mood of certain target population in a given time period of time. The evolution of big data not only stops here but also in security AI and Machine Learning play a critical roles. [3] It is now inevitable for any organization to include big data in their business strategy to leverage the trend of analytics.

## 3 INTEGRATING SINGULARITY AND BIG DATA TO DRIVE SUCCESS

Thinking about integrating big data and using singularity in the strategy, as per GE healthcare in today's health care system per se machine learning is [3] an integral part of the healthcare data analytics business strategy. Deep learning platforms are providing physicians an efficient way to diagnose and treat patients by automating critical procedure and processes. Machine learning is a non-linear process algorithms which is nowadays used by many healthcare providers to access the immediate result which could improve the treatment option to a different extent. In University of California, San Francisco, scientists are in process of developing deep learning platform to scan X-ray results interpretation by using AI and Machine learning. This is a profound effect of singularity in Big Data where in one way X-ray data from thousands of patients are stored and AI will eventually analyze the new X-ray against the data set to find the abnormalities in the report. This could lead to a life server environment of human invention. Machine learning also helps significantly in digital health and precision medicine revolution by genomic science advancements of gene factorization. Asurex Health, a Midwest based company is currently leveraging new deep learning AI platform in personalized medicine which will treat one individual with same diseases differently than other individual. This revolutionary inventions are some of the effects of modernization of machine learning in healthcare systems.[3]

## 4 SINGULARITY IN BIG DATA :IS REALLY GOOD FOR INNOVATION

Singularity in a way of machine learning and Artificial Intelligence could be a good bet for innovations where the potential of AI could boost the economic growth. The most advancements of AI is coming from Machine learning which requires huge amount of data feeding to create, train and test AI processes. In so many ways AI and Machine learning helping innovations but there are potential risks of creating the overall flow in business world as well as in society. With AI and Big data innovations large organizations are reaching potential information than ever before and we started seeing the effect of these innovations in monopoly business environment where small firms are eliminating from competition. There are many examples where AI is enabled by Big Data applications. Speech recognition [2] has empowered greater traffic of incidents and outcomes as a result of high scaled machine learning implementations. These tremendous technological advancements improved traceability in disease evolution and treatment efficiency.[2]

## 5 ARTIFICIAL INTELLIGENCE PLATFORMS

There are several AI and Machine learning mechanism which lead to innovations of Big data to a next level, most of the deep learning platforms already started producing beneficial results to the users some are still in research phrase. [2]

### 5.1 IBM Watson

IBM Watson is an Artificial Intelligence platform [3] of question answering computing system [6]. It uses automated reasoning, machine learning technologies to the field of open domain question answering [6]. Watson is a modern big data technological advancements which has four terabytes of disk storage and 200 million pages of structured and unstructured contents. In coming years IBM Watson complied with deep learning and network analysis would lead to different extent of context analytics.

### 5.2 Google AlphaGo

How about living in a world with a player against us as a machine lead by AI and Machine learning. AlphaGo is a computer program which plays board game GO. This is based on a cluster networking environment which uses deep learning neural network. AlphaGo was a huge success in AI research with a win against human mind. There has been a huge widespread application of AI using big data to sports and gaming industry which can create revolution. There are many AI platforms have been either developed or in research right now such as Google Self Driving car which with a blend of big data and AI would be superficial to the society as a whole. [6]

## 6 USE OF ARTIFICIAL INTELLIGENCE IN BIG DATA IN BUSINESSES

largest manufacturer of United States, Wall Mart and Coca Cola are in a large scale agreement to use big data, Machine Learning, Internet of Use and Artificial Intelligence. [1]. Wall Mart using AI and Machine Learning to distinguishes itself from other competitors in analysis of shopping patter of online and in store shoppers, they are also in a research of marketing analytics in help of supercomputer

to have new scanning systems in shopping cart which provides product recommendations to shoppers. Coca Cola in another way using Machine learning algorithms to create blend of drinks by the choice of customers which help them to innovate new product development.

## 7 CONCLUSION

The application of artificial intelligence on big data is debatably the most important modern breakthrough of modern world. The overall perspective of AI on big data redefines how businesses and society create values with the help of data. With the help of big data everyone has the reach of vast amount of data which can readily help supplying valuable information. The obtainability of massive data set with implementation of machine learning along with a sophisticated algorithm provided a breakthrough of contemporary innovation.

## ACKNOWLEDGMENTS

The author would like to thank Dr. Gregor von Laszewski and I523.

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Warning--can't use both author and editor fields in editor05

Warning--empty publisher in editor05

Warning--empty address in editor05

Warning--empty chapter and pages in editor05

Warning--can't use both author and editor fields in editor03

Warning--empty publisher in editor03

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Warning--can't use both author and editor fields in editor02

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Warning--can't use both author and editor fields in editor01

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## 9 ISSUES

DONE:

Example of done item: Once you fix an item, change TODO to DONE

### 9.1 Writing Errors

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The citation mark should not be in the beginning of the sentence or paragraph, but in the end, before the period mark. example: ... a library called Message Passing Interface(MPI) [7].