



## OUR HERITAGE

ISSN: 0474-9030 Vol-68, Special Issue-27 (Feb. 2020)  
5th International Conference On “Innovations in IT and  
Management”

Organised by: Sinhgad Technical Education Society's  
SINHGAD INSTITUTE OF MANAGEMENT AND COMPUTER APPLICATION (SIMCA),  
Narhe Technical Campus, Pune, Maharashtra (India) 411041.

Held on 6<sup>th</sup> & 7<sup>th</sup> February 2020



## Data Science for Revolutionary Business World

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### Abstract

*Data Science is the sizzling revolutionary domain in business, technology and research world today. It is a future of Artificial Intelligence and its applications. Everything is turn around data; the rise of big data and Artificial Intelligence is empowering the business world. Organizations extract hidden insights from complex data by using cutting edge techniques and tools. Data Science with AI applications like machine learning and deep learning plays an important role in turning big data into true business values. In this paper researchers have focused on importance of data science for revolutionary business, its applications and proposed a methodology for automatic sentiment analysis for business.*

**Keywords:** Artificial Intelligence, Machine Learning, Big Data, revolutionary world, Data Science, Sentiment analysis.

### 1. Introduction:

Data Science is a process of providing meaningful information from large amount of big data by unifying statistical methods, machine learning, data analytics etc. Data Science is also called as Data-Driven Science which discovers future patterns, trends and behavior then put it in statistics and computation to interpret data for making business decisions. As advance technologies for big data collection and analysis are more sophisticated; field of data science is growing rapidly [1] [2] [3].

Now a day's data science is applicable in each and every field for decision making purpose. Many organizations are applying data science on big data to bring value to their customers in everyday activities. Banking institutions are investing on big data for fraud detection, customer churn prediction etc. Companies such as Netflix discover big data to determine what products their users wants actually. Data science is also applied in healthcare, telecom and retail industry for making decisions clearly. Data science is growing at a rapid rate, and its applications will change lives and world of business into the future [2].

### 2. Related work:

In [4] According to R. Akerkar and P. Sajja data science is a systematic analysis of data from various sources using various tools and techniques for discovering knowledge which can



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be then utilized for effective decision making and problem solving. According to them the ultimate emerging opportunity in data science is big data.

In [5] Data Science for Business – 7 Major Implementations of Data Science in Businesses, data fair team has focused on importance of data science for business. They have mentioned a decision making process with business intelligence which includes understanding of problem, qualifying data, implementing tools and translating insights. According to team the meaningful insights will help the data science companies to analyze information at a large scale and gain necessary decision-making strategies very successfully.

### 3. Objectives:

1. To Study Importance of Data Science in Business.
2. To Study Applications of Data Science
3. To Study Future Scope of Data Science

### 4. Importance of Data Science in Business:

Data science is helping organizations in many ways to grow their business which elaborated in fig 1.



**Fig 1: Importance of Data Science**

(Source: <https://data-flair.training/blogs/data-science-for-business/>)

Data Science can help businesses for making smarter decisions which is called as business intelligence which incorporate a wide range of business operations. It helps in making better product and managing business efficiently. Data science also helps to build predictive



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analytics to predict future outcomes and leveraging data for business decisions and accessing them. It also helps in automation processes [4], [5].

### 5. Applications of Data Science:

Currently data science is exploring and it is applied in various fields. Some well-known applications of data science are as follows [6]. Data science doesn't end here. Many data science applications the future holds for us.

Domain	Application and Roles
Banking	Fraud and Risk Detection
Healthcare	<ul style="list-style-type: none"> <li>➤ Medical Image Analysis</li> <li>➤ Genetics &amp; Genomics</li> <li>➤ Drug Development</li> <li>➤ Virtual assistance for patient and customer support</li> </ul>
Internet Search	Searching Query in a fraction of second
Targeted Advertising	Advertising based on user's past behavior.
Website Recommendations	Suggesting similar products.
Advanced Image Recognition	Automatic tag suggestion
Speech Recognition	Google Voice, Siri, Cortana
Airline	Airline Route Planning
Game	Gaming
Augmented Reality	<i>Pokemon GO.</i>

**Table1: Applications of Data Science**

### 6. Future Work and Proposed Methodology:

As Data science is growing rapidly in all significant domains, there is a scope for business world to turn their data into real value. Till date many data science applications have been developed in specific domains with specific purpose. Our aim is to develop automatic sentiment analysis system to identify behavior of users for future development in business. Sentiment analysis is a machine learning technique that automatically analyzes data and detects the sentiment of text. By identifying the sentiment towards products, brands or services, businesses can understand how their customers are talking in online conversations.

Proposed methodology for sentiment analysis is mentioned as below. Main purpose of the research is to develop automated system.

1. Collecting sentiment about business products.
2. Applying ETL process to clean data.
3. Converting data in CSV format
4. Applying Data science tools and techniques.
5. Visualizing Results for effective decision making.



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### 7. Conclusion:

Rapid advancement in data science has opened many gates for researchers. Several organizations are applying data science techniques on big data for discovering meaningful knowledge, which helps to expand their business in all means. In this paper researchers have tried to focus on importance of data science in business world. They have given an overview of applications of data science and mentioned proposed methodology to develop automatic sentiment analysis system for business.

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