

# A Sneak Peek into Data Science

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**Abstract:-** Data science is one of the emerging careers today. The role of data collection and its interpretation helps in growth of almost every field today. Business, health, technology, tourism or technology, all sectors now have a root extension in form of data science. Thus with growing demand, data science is an upcoming course for graduates and post graduates. This paper attempts to compile some basic information on the subject for aiding undergraduates when selecting Data science as a major to study.

**Keywords:-** Data Science, Statistics, Computer Science.

## I. INTRODUCTION

Mobile beeps, message received, once again another promotional message, but how did they get my number? Random call, another promotion or selling call, furiously I hang up and same question...HOW DID THEY GET MY NUMBER??

Seeing I irritated my brother comes to my aid and informs me that DATA is a big thing nowadays. All fields today, be it business, computers, engineering, tourism etc etc need data. This helps their business grow and this is in fact a very sought after course.

This talk makes me curious and inquisitive to know more about it and I open my laptop to find more.

Today Data Science is one of the most sought after careers. In 2020 LinkedIn reported that in data science, as a job option, there has been as high as 37% hiring growth in last few years. But, why is Data Science so important?

Data science has gained importance because Data is a precious asset of any organization. By proper interpretation of data, a firm can understand and put into use the derivations to increase their businesses, thus saving time and money. For example, with help of data, a company can get better idea of its customers and channelize its resources in a better manner to target that them and thus enhance their business.

Data science is important because any Data has no meaning until it is converted into a form from which valuable information can be derived. Data Science involves studying large datasets and deriving hidden patterns so as to extract insights which are then acted upon. The recent artificial intelligence options are all dependent on data interpretation, thus making it a necessity of today and future.

Data Science encompasses various other fields like Computer Science, Statistics, Inference, Machine Learning algorithms, Predictive Analysis, and new technologies.

## II. HISTORY

John Tukey in 1962 wrote about the convergence of Statistics and computers to devise measurable outputs in hours. The term 'Data Science' was mentioned by Peter Naur (1972) in his review, Concise Survey of Computer Methods. The International Association for Statistical Computing (IASC) 1977 was formed to link modern computer technology, traditional statistical methodology, and domain expertise to convert data into knowledge.

Jacob Zahavi in 1999 stressed the need for new devices to deal with the gigantic chunk of organizational data. The International Council for Science published the Data Science Journal in 2002, focusing on Data Science issues like data systems explanation, application etc. In 2003, Columbia University published the Data Science Journal. In the year 2005, the National Science Board published an existing collection of digital data, and in 2013, IBM revealed that in past two years, 90% of the global data had been created. By this time, various organizations had realized the importance of Data Science so as to convert huge data clusters into usable information thus to gain crucial insights.

According to IDC, by 2025, everything being digital nowadays, as a result global data will grow to 175 zettabytes. Data Science enables companies to efficiently understand gigantic data from multiple sources and thus understand valuable insights so as to make intelligent data-driven decisions. Data Science is widely used in various industry domains like healthcare, banking, policy work, finance and marketing etc. According to one study, the global Data Science market is expected to grow to \$115 billion by 2023.

## III. POTENTIAL OF DATA SCIENCE

The following are some of the advantages of data science:

- Data Science enables businesses to track and measure performance metrics, allowing them to make smarter decisions.
- Companies are able to analyze trends thus increasing profitability by engaging customers better and enhancing company performance.
- By merging existing data with other data, organizations

can identify and refine target audiences.

- It enables recruiters to identify candidates that best fit their company needs by observing the data.
- In the healthcare industry, Data Science is used to evaluate data from wearable trackers in order to ensure the safety of patients. Data science also aids in the efficient management of hospitals.
- Retailers benefit by improving customer experience and retention.
- In banking and finance sectors, data science aids in fraud detection and personalized financial advice.
- The transportation journeys of customers are helped by Data Science.
- Data science enables businesses to produce content tailored to a certain audience, track its performance, and recommend on-demand material.
- Information technology makes our lives easier by allowing us to collect and handle more data more quickly and efficiently, resulting in immediate results.

With new advancements and discoveries in ever-evolving field of Data Science, one always gets to learn something new, thus making every day's work interesting and exciting. New Data Science skills can be acquired endlessly, giving you a competitive edge with knowledge and expertise.

#### **IV. ADVANTAGES**

Thus various advantages of data science are its ever increasing demand, numerous job positions, high salary, versatility and new challenges every moment. On the other aspect, various disadvantages are its blurry term, mastering it very difficult, large amount of domain knowledge required and problem of privacy.

For data preparation and statistical analysis, data scientists utilize Python and R. Python is a general-purpose programming language that is more understandable, easier, and gives greater learning flexibility than R.

#### **V. CONCLUSION**

Thus to conclude we can say that with its foot in practically all fields, Data Science job-demand is estimated to increase several-folds and so it is the future. Studying data science as a major holds growth potential for a student and a secure future.

#### **REFERENCES**

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