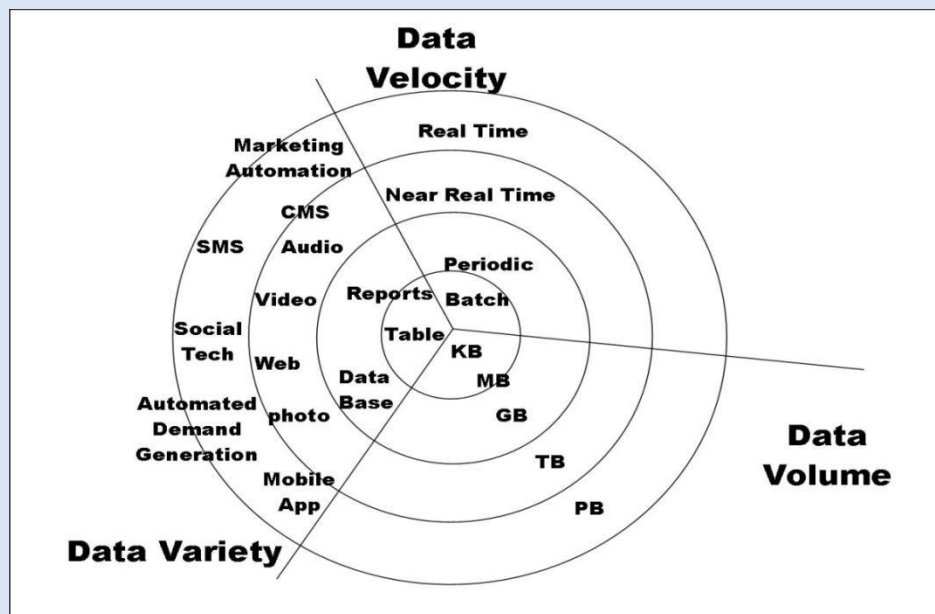**CSE- DATA SCIENCE**

## About Branch

Lots of data is being collected and warehoused by different means. Such as, Web data, e-commerce data financial transactions, bank/credit transactions , online trading and purchasing data, Social Network data.



 **"Data Science is a broad field that refers to the collective processes, theories, concepts, tools, and technologies that enable the review, analysis, and e xtraction of valuable knowledge and hidden information from raw data."**

**Scope -**With data being termed as the future oil for organizations, analytics have become an engine that drives it to arrive at meaningful insights. The powerful combination of both is what is driving the future scope of data science. All across the globe, organiz ations are innovating multiple methods to harness data and use this powerful tool to drive their businesses.       The confluence of massive data influx and the need to harness this huge amount of data has together built a big job market in data science. **Data Sc ience** has introduced a whole new array of jobs to the market.       Especially in a developing country like India, there is scope for huge data-related operations such as data scientists, data analytics, big data engineers, big data managers, and data architects.

## Covid-19 Pandemic:

As the spread of Covid -19 spread across India, most of the processes started happening online. With everything taking place online, there was a huge amount of data generated through these processes, which accelerated the growth of data scientists in India. The recent surges in e -commerce platforms, online transactions, and more students opting for online courses have contributed to the need to analyze massive data chunks for a comprehensive understanding. This, in turn, has amplified the future scope of data science in India.

## Placement

Data Science job opportunities in India are vast, and there are many opportunities for those with the right skill set. With the right training, data scientists can help businesses to improve their decision - making, gain insights into their customers, and automate their operations. Below are the names of top Indian companies along with the typical base pay that they offer:

**TCS:** INR652,075/yr

**Mahindra:** INR873,057/yr

**IBM:** INR1,067,758/yr

**Infosys:** INR837,251/yr

**Capgemini India Pvt Ltd:** INR950,000/yr

## Data Science: Job Roles

● Big Data Engineer: Big data engineers develop, maintain, test, and evaluate big data solutions within organizations.

● Machine Learning Engineer: Machine learning engineers have to design and implement machine learning applications/algorithms to address business challenges.

● Data Engineer/Data Architect: Data engineers/architects develop, construct, test, and maintain highly scalable data management systems.

● Data Scientist: Data scientists have to understand the challenges of business and offer the best solutions using data analysis, data processing and machine learning.

● Statistician: Statistician interprets the results, along with strategic recommendations or incisive predictions, using data visualization tools or reports.

● Data Analysts: Data analysts are involved in data manipulations and data visualization.

● Business Analysts: Business analysts use predictive, prescriptive, and descriptive analysis to transform complex data into easily understood actionable insights for the users.

## Technology Impact

Data science has a profound impact on the information technology industry. It provides organizations with valuable insights into customer behavior and preferences, enables operational optimization and efficiency, identifies new growth opportunities, and enhances security.

At the same time, technological progress has positively impacted data analysis by increasing efficiency, accuracy, and the capacity to manage large datasets. Furthermore, it has introduced advanced data vis ualization tools, raised issues related to data security and privacy, and broadened access to analytical tools.

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