Towards Data Science

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Towards Data Science

- For the past two decades, it has been focused on building systems and applications
- With these software systems and applications in addition to the emergence of new technologies,there has been an exponential increase in data.
- This has introduced an opportunity to analyze and derive invaluable insights from data.
- Data is stored representing information about customers, their use of services, servers provide services, employees who help interact the customers, for instance, with business and so on.

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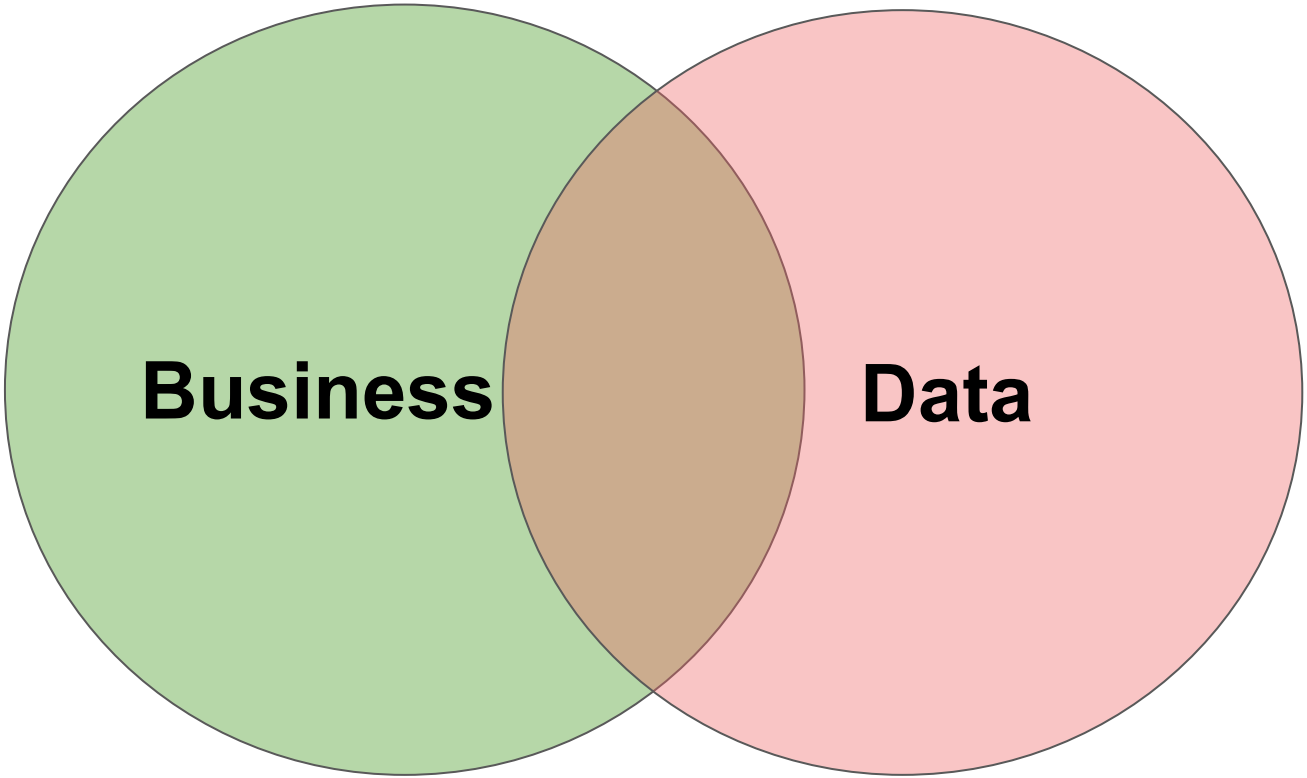

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What can data offer?

- Improve the provided services and operations
- Provide new services and features
- Provide insights
- Offer better decision making
- Open markets
- And most importantly, increase revenue

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What is Data Science?

- Data Science is about extraction, preparation, analysis, visualization, and maintenance of information.
- Data Science is a cross-disciplinary field that requires the intersection of different skills:
  - **Domain knowledge and experience**
  - **Data Engineering**
  - **Data Visualization and Analysis**
  - **Machine Learning Engineering**

- Recently, data science is a field showing immense growth with obvious awareness about its significance

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What can Data Science do?

- Explore data and discover patterns
- Understand data relations
- Give descriptive analysis
- Give insights
- Analyze performance in the market
- Build Predictive Systems

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What can Data Science do for the **Telcom** industry?

- **Marketing Campaigns:** what, how, when and where

- **Customer Care:** issues resolved as quickly as possible

- **Customer Churn Prevention:** immediate addressing of the satisfaction-related issues

- **Customer Sentiment Analysis:** Assessment of the customer positive/negative reaction to the provided services, thereby, resolve issue and improve services

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What can Data Science do for the **Telcom** industry?

- **Recommendation Systems:** suitable services, programs, mobile devices etc.

- **Network Management, Security and Optimization:** detect or predict failure/misuse/attack

AND MANY MORE ……

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Data Analysis using Python

- Data Analysis, as mentioned, is one of the important phases towards Data Science
- Data Analysis can do:
  - **Explore data**
  - **prepare data for analysis,**
  - **perform statistical analysis**
  - **Meaningfully visualize data**
  - **Detect Missing values**
  - **Detect Outliers**
  - **Predict future trends**

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Data Analysis using Python

- Why Python for Data Analysis?
  - **Top-5-ranked Language**
  - **Increasingly large community**
  - **Offers Pandas that provides powerful data structure**
  - **Offers powerful packages for data visualization**
  - **Also offers powerful packages for statistics and other mathematical formulations**

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Building Predictive Systems using Python

- By **predictive modeling**, data is utilized in order forecast outcomes and how likely will influence in the future

- Python is also very powerful for such a purpose by providing many many machine learning and deep learning packages such as but not limited to:
  - **Scikit-learn**
  - **Tensorflow**
  - **Keras**
  - **PyTorch**

Thank you