



# DATA SCIENCE

## S Y L L A B U S

## What you will learn

- Basics of Statistics and Probability
- Tools and Data Management
- Statistics and Exploratory Data Analysis
- Fundamentals of Machine Learning

# Course Content

## Basics of Statistics and Probability

## Tools and Data Management

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- Python Basics
- Intermediate Python
- Relational Databases
- SQL
- Data Extraction
- Data Cleaning

## Statistics and Exploratory Data Analysis

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- Statistical Distributions
- Sampling
- Hypothesis Testing

## Statistics and Exploratory Data Analysis

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- Lists, Dictionaries, Looping, Functions
- Git/Github
- Data Analysis & Visualization (Numpy)
- Data Analysis & Visualization (Pandas)
- Accessing Data through APIs

## Fundamentals of Machine Learning

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- Linear Regression
- Logistics Regression, Step-wise Regression, Non-linear Regression
- Classification
- Dimensionality Reduction
- Naive Bayes
- K-Means
- Text Mining

## Fundamentals of Machine Learning

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- Clustering
- Grid Search
- Decision Trees
- Time Series Analysis
- Linear Optimization

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