

DATA SCIENCE

CLUSTERING AND TIME SERIES ANALYSIS

- ⊗ K means clustering
- ⊗ Hierarchical clustering
- ⊗ Model evaluation
- ⊗ Parameter tuning
- ⊗ Model visualization
- ⊗ Introduction to Time Series Data
- ⊗ Time Series Forecasting Methods

NATURAL LANGUAGE PROCESSING (NLP)

- ⊗ Introduction to NLP
- ⊗ Text Preprocessing
- ⊗ Bag of Words Model
- ⊗ TF-IDF Model
- ⊗ Sentiment Analysis
- ⊗ NLP Applications

MODEL TUNING

- ⊗ Hyperparameter optimization
- ⊗ Grid Search
- ⊗ Random Grid Search
- ⊗ Bayesian optimization

RECOMMENDATION SYSTEM

- ⊗ Content- Based Filtering
- ⊗ Collaborative based filtering
- ⊗ Market basket analysis

DATA SCIENCE DATABASES

- ⊗ SQL

DEEP LEARNING (BASICS)

- ⊗ Tensorflow and keras
- ⊗ Deep learning frame work
- ⊗ CNN and RNN

DATA SCIENCE DEEP FLASK

- ⊗ Creating Restful API with Flask
- ⊗ Postman/ ARC Chrome.



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AI
POWERED

DATA SCIENCE

Web
school



INTRODUCTION TO DATA SCIENCE

- ⊗ What is Data Science
- ⊗ What is Machine learning
- ⊗ What is deep learning
- ⊗ What is AI
- ⊗ Data analytics and its types
- ⊗ Why python?

PYTHON (BASIC TO ADVANCED)

- ⊗ Installation and google colab setup
- ⊗ Understanding various python notebooks like Jupyter, spyder
- ⊗ Variables and data types: numbers, Boolean and strings.

PYTHON (BASIC TO ADVANCED)

- ⊗ Operators
- ⊗ Conditional statements
- ⊗ Functions
- ⊗ Sequences
- ⊗ Files and classes
- ⊗ Object oriented programming

PYTHON PACKAGES

- ⊗ Numpy
- ⊗ Pandas
- ⊗ Matplotlib
- ⊗ Seaborn

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DATA SCIENCE

DATA SCIENCE STATISTICS

- Types of statistics
- Descriptive Statistics
- Types of Data
- Population and sample
- Mean, Median and mode
- Regression
- Variability
- R-Squared
- Correlation
- Covariance
- Distribution
- Normal Distribution
- Standard normal distribution
- Central limit theorem
- Standard error
- Confidence intervals
- Z-score
- Margin errors
- Hypothesis testing

LINEAR ALGEBRA BASICS

- Vectors
- Matrices

DATA SCIENCE PROBABILITY

- Basic probability
- Computing expected values
- Events
- Combinations
- Factorials
- Bayesian Inference
- Sets and events
- Probability distributions
- Discrete distributions
- Applications of probability in statistics
- Applications of probability in data science



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DATA SCIENCE

DATA PREPROCESSING

- Handling missing values
- Encoding categorical data
- Split the dataset
- Feature scaling

EXPLORATORY DATA ANALYSIS

- Feature Engineering
- Data visualization – PowerBi
- Different chart types

MACHINE LEARNING

- Introduction to ML
- Types of AI
- Stages of ML Projects
- Types of ML Algorithms



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DATA SCIENCE REGRESSION

- Simple linear regression
- Multi linear regression
- Model evaluation
- Project : Kaggle bike demand prediction



DATA SCIENCE CLASSIFICATION

- Logistics regression
- Bagging and Boosting
- SVM
- KNN
- Decision Trees
- Random forest
- XG Boost classifier
- Naïve Bayes
- Model evaluation
- Project : Open Kaggle Competition