DATA SCIENCE

Python

- Introduction
- Installation
- Fundamental of Python
- Variables
- Comments
- Print Statement
- Operators
- Mutable Data Types
- Data Types
- Special Data Types
- Conditions
- Loops
- Functions
- Break, Continue and Pass Statements
- String Object and working
- List
- Tuple
- Set
- Dictionaries
- Map
- Reduce
- Filter
- Classes
- Objects
- Inheritance
- Multiple Inheritance
- Modules
- Error Handling

Data Visualization

- Matplotlib
- Seaborn
- Plotly
- Cuflinks
- Bokesh

Libraries

- Numpy

- Pandas
- Random
- Math
- Scipy
- sklearn
- Keras
- Tensorflow
- OpenCV
- NLTK
- Spacy
- Lot more…

Tableau

- Introduction to Data Visualization
- Introduction to Tableau
- Basics charts and dashboards
- Special Char Types
- Dashboard design and principles
- Connections with servers
- Local file access
- Hands on experience with worksheet

Web Scraping

- Url
- Beautiful Soup

Evaluation Metrics for Regression Models

- R-Square
- Adjusted R Square
- Mean Square Error
- Root Mean Square Error
- Mean Absolute Error

Classification Models

- Introduction to Classification Models
- Logistics Regression
- Naïve Bayes
- Support Vector Classifier
- K-NN Classifier
- Decision Tree Classifier
- Random Forest Classifier

Evaluation Metrics for Classification Models

- Accuracy
- Precision
- Recall
- F1 Score
- ROC Curve

Unsupervised Learning

- Introduction to Unsupervised Learning

Clustering Models

- Introduction to Clustering Models
- K- Mean Clustering
- Hierarchical Clustering
- High Dimensional Clustering

Dimension Reduction

- Principal Component Analysis (PCA) Reinforcement Learning

Reinforcement Learning

- Introduction to Reinforcement Learning

Featurization, Model Selection & Tuning

- Feature Extraction
- Model Defects & Evaluation Metrics
- Model Selection and Tuning
- Comparison of machine learning models

Neural Networks

- Introduction to Deep Learning
- Fundamental of Neural Networks
- TensorFlow and Keras
- Artificial Neural Networks (ANN)
- Convolution Neural Networks (CNN)
- Recurrent Neural Networks (RNN)
- Evaluation of Deep Learning
- Neural Networks Basics
- Gradient Descent
- Introduction to Perceptron & Neural Networks
- Batch Normalization
- Activation and Loss Functions
- Hyper parameter tuning
- SoftMax
- Deep Neural Networks

- Weights initialization

- Computer Vision
- Open CV
- Noise Detection
- Noise Reduce
- Low Pass Filters
- Forward Propagation
- Backward Propagation
- Pooling & Padding

Natural Language Processing

- Introduction to NLP
- Corpus
- Natural Language Understanding (NLU)
- Natural Language Generator (NLG)
- Tokenization (Word, Sentence, Blank, RegEx)
- Frequency Distribution
- Filtering
- Stemming
- Lemmatization
- Stop Words
- Regular Expressions
- POS Tagging
- Syntax Tree
- Chunking
- Lemmas
- Hypernyms
- Hyponyms
- Synonyms
- Antonyms
- Distance Between words
- Wordnet
- Name Entity Recognition
- Bag of words or Document Matrix
- Count Vectorization
- Term Frequency
- Inverse Document Frequency
- Sentimental Analysis

Components of Data Science

- Business Understanding
- Understanding Problem Statement
- Data Mining

- Data Cleaning
- Data Analysis
- Data Analytics
- Data Exploration
- Stats and Mathematics
- Feature Engineering
- Feature Selection
- Feature importance
- Modeling
- Predictive Modeling
- Deploying Model