Module 1: Data Science Overview

Topics

1. Applications of Data Science/ Industries
2. Data Science Disciplines
3. Future Look of Data Science
4. Case Study Uber Offer Loans

Module 2: Python Programming

Topics

1. Python Overview -
2. Python Environment Setup -
3. Python Basic Syntax -
4. Python Comments -
5. Python Variables -
6. Python Data Types -
7. Python Operators –
8. Python Numbers -
9. Python Strings -
10. Python Lists -
11. Python Tuples -
12. Python Dictionary -
13. Python Decision Making -
14. Python Loops -
15. Python Date Time - &
16. Python Functions -
17. Python Modules -
18. Python Exceptions –

Module 3: Introduction to Data Science and Machine Learning

Topics

1. Python Libraries pandas NumPy SciPy matplotlib seaborn sklearn nltk beautiful soup Keras TensorFlow etc.
2. Data Science Pipeline
3. Data and Data Types
4. Data Pre-Processing Wrangling Munging
5. Explanatory Data Analysis Descriptive Statistics

Module 4: Data Visualization

Topics

1. Types of Plots Charts Graphs
2. Uni variate Bi variate Multi Variate Plots
3. Interpreting the plots and Drawing Conclusions
4. Other Libraries

Module 5: Inferential Statistics Diagnostics Analysis

Topics

1. Test of Hypothesis
2. One Sample Two Sample Paired and Analysis of Variance ANOVA etc
3. Understanding p values confidence levels Decision Making Conclusions

Module 6: Introduction to Machine Learning

Topics

1. Predictive Statistics Predictive Analysis
2. Machine Learning Use Case Applications
3. ML vs AI

Module 7: Supervised Learning

Topics

1. Regression Analysis
2. Classification Analysis
3. Model Selection SVM KNN DS RF Bayes etc
4. Cross Validation
5. Model Tuning
6. Model Testing Performance Interpretation Implementation Feedback

Module 8: Unsupervised Learning

Topics

1. Clustering
2. Recommender Systems

Module 9: Natural Language Processing

Topics

1. Scraping Acquisition Social Media
2. Tokenization
3. Stop Words
4. Punctuations and Symbols
5. Lemmatization and Stemming
6. Bag of Words and Word Cloud

Module 10: Deep Learning

Topics

1. Artificial Neural Networks
2. Convolutional Neural Networks
3. TensorFlow and Keras
4. Sequential and Dense
5. Training and Early Stopping
6. Results and Interpretation