



Course Syllabus

Data Analytics, Machine Learning and Deep Learning

1. Introduction to Python Language

- Download and install Python
- Features of Python
- Python Application Areas with real time examples
- Conditional and Looping Constructs

2. Sequences

- List
- Tuple
- String
- Set
- Dictionary
- Shallow copy and Deep Copy

3. Functions

- Define functions
- Function Arguments & Return values
- Local and global variables



4. OOPS

- Class definition
- Creating objects
- Constructors
- Accessing attributes
- Build-in class attributes
- Destructors
- Inheritance
- Overriding
- Overloading
- Data hiding

5. Sqlite & MySQL Databases

- Connecting to db
- CRUD operations
- Joins
- Procedures

6. Numpy

7. Pandas

8. Matplotlib

9. Seaborn – HeatMap, Correlation analysis, Count Plot



10. Introduction to Machine Learning

- What is Machine Learning?
- Applications
- Steps in ML
- Scikit-Learn
- Basic example using Linear Regression
- Accuracy Score

11. Data Analytics

- Data mining concepts and applications
- What is data mining?
- What Kinds of Data Can Be Mined?
- Which Technologies are used?
- Major issues in Data Mining
- Data Mining Stages
- Selection of target data: Introduce Dataset sources.
- Need for data preprocessing
- Major tasks in preprocessing
- Data Cleaning (Wrangling)
- Data integration
- Data reduction
- Web Mining (Web Scraping)
- Web content mining
- Web usage mining – (log files)
- Web structure mining
- Working example of web scraping using scrapy



12. Machine Learning with Python

- o Shallow Learning and Deep Learning
- o Learning Methods
- o Supervised Learning
- o Unsupervised Learning (Data mining)
- o Clustering

13. Neural Networks & Deep Learning

- Human Cognitive Abilities
- Neural Networks & similarity to human brain
- Real life applications (Theory)
- Neural Network
- Working of neural network using mathematical visualization
- Keras using TensorFlow
- Handwriting Recognition using MNIST dataset
- Project



Contact Us

IPSR SOLUTIONS LTD.

Merchant's Association Building

M.L. Road, Kottayam - 686001

Kerala, India, Pin-686001

Phone: +91-481 2561410, 2561420, 2301085

Email: training@ipsrsolutions.com

Website: <http://www.ipsr.edu.in/>

We have branches at Kochi-South, Kochi-North, Thiruvananthapuram, Calicut and Bengaluru.