DATA SCIENCE & ML WITH PYTHON

COURSE CONTENT

LEARNING PLAN

SI.NO	TOPIC	LEARNING TIME	NO.OF QUIZES	NO.OF ASSIGNMENTS	TOTAL TIME
1	Significance of DS	01:00	Na	Na	01:00
2	Python Programming	30:00	300	100	30:00
3	Data Base Programming	06:00	20	20	06:00
4	Front End Technology	03:00	20	20	03:00
5	Fire Base Cloud	03:00	10	10	03:00
6	Django Framework	03:00	10	10	03:00
7	3-Tier Architecture Projects	06:00	00	00	06:00
8	Data Science Fundamentals	03:00	30	00	06:00
9	PANDAS Module for DS	06:00	20	20	06:00
10	NUMPY Module for DS	03:00	20	20	03:00
11	Statistics for DS	03:00	20	20	03:00
12	Matplotlib/PowerBI	06:00	20	20	06:00
13	Machine Learning Algorithms	15:00	50	20	15:00
				TOTAL	88

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4. FRONT END TECHNOLOGY

- HTML
- HTML Tags
- HTML Tags Attributes
- HTML as Front End & Mysql as Back End project
- HTML as Front End & MongoDb as Back End project
- HTML as Front End & Fire Base Cloud as Back-End project

5. FIRE-BASE GOOGLE CLOUD

- Creation of console account in Fire Base cloud
- Establish connection between front end HTML & Firebase
- GUI data supplement from front end to store data in firebase
- Firebase data cloud in the form of JSON Format

6. DJANGO FRAMEWORK

- Introduction about Django framework
- Django Installation over python platform
- Django as web deployment framework
- Configuration Settings
- MVT Model as Architecture

7. 3-TIER ARCHITECTURE PROJECTS

- Project with Mysql as Backend on Django Framework
- Project with MongoDb as Backend on Django Framework

8. DATA SCIENCE FUNDAMENTALS

- AI vs DS vs DW vs DM vs ML
- Classification of data for data analytics
- Data vs Information vs Knowledge vs Wisdom
- Characteristics of data volume, velocity, variety
- OLAP Vs OLTP
- Demonstration about N-Dimensional data representation
- Types of Analysis in Data Science domain

9. NUMPY MODULE

- Importing and operations of numpy
- Index, slice, reshape numpy arrays
- Numpy array broadcasting
- Vector Arithmetic Operations
- Matrix Arithmetic Operations
- Types of Matrices
- Matrix Operations

- Tensor Arithmetic operations

10. PANDAS MODULE

- Importing pandas module
- Pandas Series structure
- Pandas Dataframe structure
- Possible operations on Dataframe
- Aggregating Data

11. STATISTICS FOR DATA SCIENCE

- Introduction to Statistics
- Types of data
- Terminologies of statistics
- Descriptive Statistics
- Inferential Statistics
- Application of Statistics in Machine Learning

12. MATPLOTLIB MODULE/Power BI

- Importing matplotlib
- Types of plots
- Line Plot
- Scatter Plot
- Bar Plot
- Histogram
- Pie Chart

13. MACHINE LEARNING ALGORITHMS

- Fundamentals of ML Techniques
- Classification of ML Techniques
- Supervised Learning Algorithms
    - Linear Regression Algorithm
    - Multilinear Regression Algorithm
    - Logistic Regression Algorithm
    - Decision Tree Algorithm
    - Naïve Bayes Algorithm
    - Support Vector Machine Algorithm
- Unsupervised Algorithm
    - K-means Algorithm