Programmer's Den

"Practical Knowledge > Theoretical Knowledge"

Machine Learning using Python

Batch Contents: -

Module 1: Python Programming Language

- History of Python Programming Language.
- Introduction To Python.
- Features of Python.
- Toolchain of Python.
- Implementation of Python.
- Installation of Python and IDE
- Data Types in Python
- Variable Declaration in Python
- Flow Control Statements (loops) in Python
- Selection Statements (if else if ladder, Switch case) in Python
- Functions in Python
- Anonymous Functions (Lambda Functions in Python)
- Constants in Python
- Packages in Python
- Import/Export in Python
- I/O Operations in Python
- Arrays in Python
- List in Python

- Tuple in Python
- Sets in Python
- Dictionary in Python
- Data Structures in Python
- File Handling and manipulation (I/O) using Python.
- Recursion in Python
- OOPS Concepts in Python
- Filter, Map, Reduce in Python
- Decorators in Python
- Duck Typing in Python
- Exception Handling in Python
- Multithreading Programming in Python
- Multitasking Programming in Python
- Multiprocessing Programming in Python
- Parallel Programming in Python
- Thread Synchronization in Python

Module 2: Machine Learning

- Machine Learning Concept
- Types of Machine Learning
- Introduction to Data Science
- Types of Data
- Data set and its classification
- Volume, Velocity and Variety of data
- Features and Labels of Dataset
- Training and Testing Dataset
- Split activity to Divide Dataset
- Data Sources
- Data cleaning
- Data manipulation Techniques

- Data representation Techniques
- Data analysis Techniques
- Data Storage Techniques
- Loading Dataset
- Cleaning Dataset
- Development phases of Machine learning applications
- Concept of Supervised Machine Learning
- Concept of Unsupervised Machine Learning
- Libraries used for Machine Learning
- Introduction to pip utility
- Environment setup for Machine Learning
- Pandas' library Installation
- Dataset manipulation using panda's library.
- Series, Data Frame and Panel in Pandas
- NumPy installation
- Numeric Calculations using python.
- SciPy installation
- Installation of Matplot library
- Visualization Techniques using matplotlib.
- Supervised Machine learning using Classification
- Decision Tree algorithm for classification
- K Nearest Neighbor algorithm for classification
- Implementation of K Nearest Neighbor algorithm
- Support Vector Machine Learning algorithm for supervised Machine Learning
- Supervised Machine Learning using Regression
- Types of Regression
- Liner Regression algorithm

- Implementation for Linear Regression algorithm
- Logistic Regression algorithm
- Ensemble Machine Learning Techniques
- Boosting Classifier and Bagging Classifier algorithm for Ensemble Machine Learning Techniques
- Unsupervised Machine Learning using Clustering
- Typed of Unsupervised Machine Learning algorithms
- K Means algorithm for clustering
- Implementation of K Means algorithm.
- Elbow Method for Finding k value.
- Accuracy Calculation for Machine Learning algorithm
- Classification of Dataset for Supervised and Unsupervised Machine Learning

Note:

- During Lectures You Have to Do Parallel Coding with Teacher for Better Understanding of All Above Concepts.