Python Machine Learning

This batch is divided into multiple parts which covers below things as

- Python Programming language Fundamentals
- Python Programming language Advanced
- Machine learning with Python

Python Programming Language Fundamentals

- Introduction of Python Programming
- History of of Python Language
- Features of Python language and its importance
- Versions of Python
- Toolchain of Python application
- First application in Python
- Data types in Python
- Variables and its types
- Operators and its types
- Bitwise operators and its working
- Memory allocation strategy used by Python
- Numbers in Python
- Input Output mechanisms
- Command line arguments
- Procedural programming approach in Python
- Function definition and function calling techniques
- Function arguments and its types
- Inner function and its calling techniques
- Returning multiple values from function
- Anonymous function and its use
- Default function arguments
- Required function argument
- Variable number of argument of function
- Keyword arguments of function
- Iterative approach using loops
- Iteration using for loop
- Use of break and continue keyword
- Iteration using while loop
- Recursive function approach
- Programs control using if, else, else if
- Array and its types
- Manipulate different types of array
- Creation and use of multidimensional array

- List in Python
- Dynamic input in List
- Range in python
- Tuples in Python
- String in Python
- Dictionaries and its use
- Manipulation of String
- File Handling
- File Reading Writing
- File creation and manipulation

Python Programming Language Advanced

- Module in Python
- Creation of user defined Module
- Multiprocessing application development
- Multitasking using thread
- Thread Synchronisation techniques
- Single threaded vs multithread application development
- Parallel programming in Python using Pool class
- Duck Typing in Python
- Decorators in Python
- Practical use of Decorators
- Lambda functions in python
- Filter Map Reduce concept in Python
- Exception handling
- Object Oriented programming in Python
- Concept of Encapsulation using Class
- Characteristics of class and its types
- Behaviours of class and its types
- Nested class and its use
- Use of self keyword
- Object creation
- Constructor and its types
- Abstraction in Python
- Polymorphism and its types
- Inheritance for reusability and its types
- Function Overloading technique
- Multiprocessing concept and its use
- Special variables in python

Machine Learning

- Concept of Artificial Intelligence
- Types of AI
- Fields in which AI is used
- Machine learning concept
- Types of machine learning
- Developmental phases of Machine Learning application
- Loading data set
- Cleaning dataset
- Concept of Supervised machine learning
- Concept of Unsupervised machine learning
- Libraries used for machine learning
- Introduction of PIP utility
- Environment setup for Machine Learning
- Introduction to Data Science
- Types of data
- Data set and its classification
- Volume, Variety, and Velocity of data
- Features of and labels from data set
- Training dataset and Testing data set
- Data encoding in dataset
- Split activity to divide dataset
- Pandas library installation
- Data set manipulation using pandas library
- Series , DataFrame and Panel in Pandas
- Numpy installation
- Numeric calculations using Numpy
- Scipy installation
- Anaconda installation
- Features of Anaconda and its use in ML
- Installation of Matplotlib library
- Visualisation techniques using Matplotlib
- Supervised machine learning using Classification
- Decision Tree algorithm for Classification
- K Nearest Neighbour algorithm for Classification
- Implementation of K Nearest Neighbour algorithm
- Supervised machine learning using Regression
- Types of Regression algorithms
- Linear Regression algorithms
- Logistic Regression algorithms

- Unsupervised machine learning using Clustering
- K Mean algorithm for clustering
- Implementation of K Mean algorithm
- Elbow method for finding value of K
- Accuracy calculation for ML algorithm
- Classification of dataset for Supervised and Unsupervised ML

Case studies designed for Machine Learning

- Iris Species classification using Decision tree algorithm
- Ball classification using Decision Tree algorithms
- Advertisement predictor using Regression
- Iris Species classification using K Nearest Neighbour algorithm
- Brest Cancer Detection using Random Forest algorithm
- Play predictor application using Linear Regression
- Head Brain size predictor using Linear Regression
- Height Weight prediction using algorithm
- Titanic Survival predictor using Logistic regression algorithm
- Diabetes detector using Linear Regression
- Wine type classifier using K Nearest Neighbour

Batch Details

Batch Duration : 3.5 Months (Complete Online)
Days : Saturday & Sunday , Public Holidays
Timing : 6.00 to 9.30 PM (+/- 30 Minutes)
Prerequisite for the batch : मेहनत घेण्याची आणि अभ्यासात सातत्य राखण्याची तयारी

Note:
कृपया class ला admission आधी खालील गोष्टी अवश्य करा

- **ज्यांनी तुम्हाला class बद्दल माहिती सांगितली त्यांचा अनुभव समजून घ्या.**
- **सरांची शिकवण्याची पद्धत बघण्यासाठी YouTube वरील videos बघा.**
- **website वरील आणि facebook page वरील students feedback वाचा.**
- **Batch मध्ये cover होणारे सर्व contents वर दिलेले आहेत ते नीट बघा.**
- **कुठलीही शंका असल्यास admin ला contact करा.**

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Marvellous Admin : 7020713938