



# Data Science 6 Months Training Program



## Why Choose us

- ✓ 100% Placement Support
- ✓ Training on Live Projects
- ✓ Modern Facilities
- ✓ Monthly Mock Interviews
- ✓ Smart Classes
- ✓ Pair Programming With Industry Experts



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## Contact us

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# OUR COURSE INCLUDE

## Month 1

### Core Python concepts

- ✓ Introduction – data types, operators, input & print functions, IDE's – IDLE & Jupyter Notebook
- ✓ Control flow statements - for, while, if, break
- ✓ Functions – Built-in and user defined
- ✓ Basics of Object oriented programming – classes and objects, inheritance

### Introduction to data analysis

- ✓ What is data analysis
- ✓ Standard process of data analysis
- ✓ Importance of data visualization

## Month 2

### Multidimensional array object & fast operations on arrays ( Numpy)

- ✓ Input/output
- ✓ The N-dimensional array & array attributes
- ✓ Indexing
- ✓ Array creation routines
- ✓ Array manipulation routines
- ✓ Broadcasting & universal functions
- ✓ Linear algebra
- ✓ Statistics

### Fast, Flexible & Expressive Data Structure (Pandas) :

- ✓ Input/output
- ✓ Pandas Series & Dataframe
- ✓ Attributes
- ✓ Indexing
- ✓ Binary operator functions
- ✓ Function application, Groupby
- ✓ Computations, Descriptive stats
- ✓ Missing Data Handling
- ✓ Combining/ comparing/joining/merging
- ✓ Plotting

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## Month 2

### Plotting with Matplotlib

- ✓ Line/Marker plot
- ✓ Scatter plot
- ✓ Bar plot
- ✓ Pie plot
- ✓ Setting colours, adjusting text formats
- ✓ Histograms
- ✓ Customizing lines & markers
- ✓ Title & legend
- ✓ Figure layout and annotations

## Month 3

### Data Science – An introduction

- ✓ What is Data Science
- ✓ What are Data & What is a data set
- ✓ Data Science Ecosystem
- ✓ Standard data science task
- ✓ Future Trends

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## Month 3

### Multidimensional array object & fast operations on arrays ( Numpy)

- ✓ The N-dimensional array & array attributes
- ✓ Indexing
- ✓ Broadcasting & universal functions
- ✓ Linear algebra
- ✓ Random sampling
- ✓ Statistics

### Fast, Flexible & Expressive Data Structure (Pandas) :

- ✓ Input/ output
- ✓ Pandas Series & Dataframe
- ✓ Attributes
- ✓ Indexing
- ✓ Plotting
- ✓ Binary operator functions
- ✓ Function application, Groupby
- ✓ Computations, Descriptive stats
- ✓ Reindexing, selection, label manipulation
- ✓ Missing Data Handling
- ✓ Combining/ comparing/joining/merging

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## Month 4

### Plotting in Python - Matplotlib

- ✓ **Pyplot API & Object oriented API**
- ✓ **Line/Marker plot**
- ✓ **Scatter plot**
- ✓ **Bar plot**
- ✓ **Pie plot**
- ✓ **Box plot**
- ✓ **Histogram**
- ✓ **Figure layout and annotations**

### Introductory Statistics & probability

- ✓ **Measures of central tendency**
- ✓ **Measures of dispersion**
- ✓ **Various Terms – IQR, Pearson Correlation coeff., Overfitting, Underfitting probability & bayes theorem**

### Introduction to Machine Learning

- ✓ **Giving computers the ability to learn from data**
- ✓ **Types of machine learning**
- ✓ **Basic terminology and notations**
- ✓ **Roadmap for building machine learning systems**

### Building good training datasets – preprocessing

- ✓ **Dealing with missing data**
- ✓ **Handling categorical data**
- ✓ **train- test split**
- ✓ **Bring features to same scale**
- ✓ **Selecting meaningful features**

### Supervised learning - Regression

- ✓ **Linear regression – Simple & Multiple linear regression, ridge & lasso regression**
- ✓ **Decision tree & random forest regressor**

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## Month 5

### Supervised learning – Classification

- ✓ Logistic regression – confusion matrix, precision and recall, ROC curve
- ✓ KNN classifier – K nearest neighbour, picking suitable value of K
- ✓ Support vector classifier – Support vectors, large margin & soft margin classifier
- ✓ Decision tree – Gini impurity & Entropy
- ✓ Random forest classifier – Extra trees classifier
- ✓ Naive Bayes classifier

### Unsupervised learning

- ✓ K – means clustering
- ✓ Dimensionality reduction & PCA

## Month 6

### Scrapy

- ✓ Scrapy project
- ✓ Command line tools
- ✓ Spiders
- ✓ Selectors
- ✓ Scrapy shell
- ✓ Items
- ✓ Feed Exports
- ✓ settings

### Basics of R Programming

- ✓ Introduction & Basic objects
- ✓ Working with strings
- ✓ Reading and writing data
- ✓ Plotting
- ✓ Working with functions

### Opencv

- ✓ Image basics
- ✓ Concept of pixels, colour and channels
- ✓ Coordinate system in opencv
- ✓ Reading and writing images
- ✓ Drawing basic shapes
- ✓ Image processing

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