

CELEBRATING  
12 YEARS

Quality Thought®

A man with a beard and glasses, wearing a dark blue suit and a teal patterned tie, is gesturing with his right hand. A white network diagram icon, consisting of a central node connected to several peripheral nodes, is overlaid on his chest.

# DATA SCIENCE

Course Duration  
**60 Days**

Total Sessions Hours  
**120 Hrs**

## INTRODUCTION

- ⇒ Introduction to the course
- ⇒ Introduction to Data Science
- ⇒ Introduction to Analytics
- ⇒ Design Thinking and Problem Statement
- ⇒ Mini Project 1
- ⇒ Project 1

## Master Python Programming

- ⇒ Python Basics
- ⇒ Python Variables: int, float, string, bool, complex
- ⇒ Conditional statements
- ⇒ Loops
- ⇒ Python Collections: List, Tuple, Dictionary, Set, Frozenset
- ⇒ Mini Project 3
- ⇒ Functions and Methods
- ⇒ Class & Objects
- ⇒ Mini Project 4
- ⇒ Numpy
- ⇒ Working with CSV and Text files
- ⇒ Working with Database
- ⇒ Error Handling
- ⇒ Regular Expression
- ⇒ Project 2: Using Python concepts

## Descriptive Statistics

- ⇒ Data and Types
- ⇒ Central Tendency: Mean, Median, Mode
- ⇒ Deviation: Range, Variance, Standard Deviation
- ⇒ BoxPlot and its importance
- ⇒ Mini Project 5
- ⇒ Frequency distribution and its importance
- ⇒ Mini Project 6
- ⇒ Scatter Plots and its importance
- ⇒ Mini Project 7

## Data Visualization

- ⇒ Story Telling
- ⇒ Scipy
- ⇒ Pandas
- ⇒ Mini Project 8
- ⇒ Matplotlib: basic plots and advanced plots
- ⇒ Mini Project 9
- ⇒ Seaborn: basic plots and advanced plots
- ⇒ Mini Project 10
- ⇒ NLP: N-gram models of language
- ⇒ Project 3: NLP
- ⇒ Web Scrapping
- ⇒ Project 4: Web scraping and visualization

## Inferential Statistics

- ⇒ Probability
- ⇒ Discrete Probability Distribution: Binomial Distribution, Poisson
- ⇒ Continuous Probability Distribution: Normal, t distribution, Exponential
- ⇒ Correlation
- ⇒ Mini Project 11 SQL Programming

## SQL Programming

- ⇒ Introduction to Database
- ⇒ Introduction to SQL
- ⇒ SQL JOIN and OPERATORS
- ⇒ CRUD operations on Tables
- ⇒ Data Wrangling with SQL
- ⇒ Project 5

## R programming

- ⇒ R Basics    ⇒ Data types
- ⇒ Loops        ⇒ Data Visualization
- ⇒ Regression: Simple and Multiple
- ⇒ Classification: KNN, Logistics
- ⇒ Clustering: K Means, Hierarchical
- ⇒ Project 6



## Statistics

- ⇒ Probability
- ⇒ Probability Distribution  
Discrete and Continuous
- ⇒ Hypothesis building

## Data Science Methodology

- ⇒ Introduction
- ⇒ Types of learning
- ⇒ Data Acquisition
- ⇒ Data Wrangling
- ⇒ Model Development
- ⇒ Model Evaluation
- ⇒ Scikit-Learn package

## Machine Learning

- ⇒ Regression: Simple linear, multiple linear, ridge, lasso, decision tree, random forest
- ⇒ Project 7
- ⇒ Classification: svm, decision tree, random forest, naïve bayes, bagging, boosting
- ⇒ Project 8
- ⇒ Clustering: K means, Hierarchical
- ⇒ Project 9
- ⇒ Association: Market Basket Analysis
- ⇒ Mini Project 12

## Deep Learning

- ⇒ Neural Network – ANN, CNN, RNN
- ⇒ Autoencoders
- ⇒ Long Short-term memory (LSTM)
- ⇒ Restricted Boltzman Machine (RBM)
- ⇒ Project 10

## Working with Tableau

- ⇒ Introduction to Visualization
- ⇒ Concepts: Filter, Join, Hierarchy, Groups, Set
- ⇒ Charts and Dashboard
- ⇒ Forecasting and Clustering in Tableau
- ⇒ Business Stories



# STUDENT TRANSFORMATION STAGES



## OUR STUDENTS ARE PLACED IN
