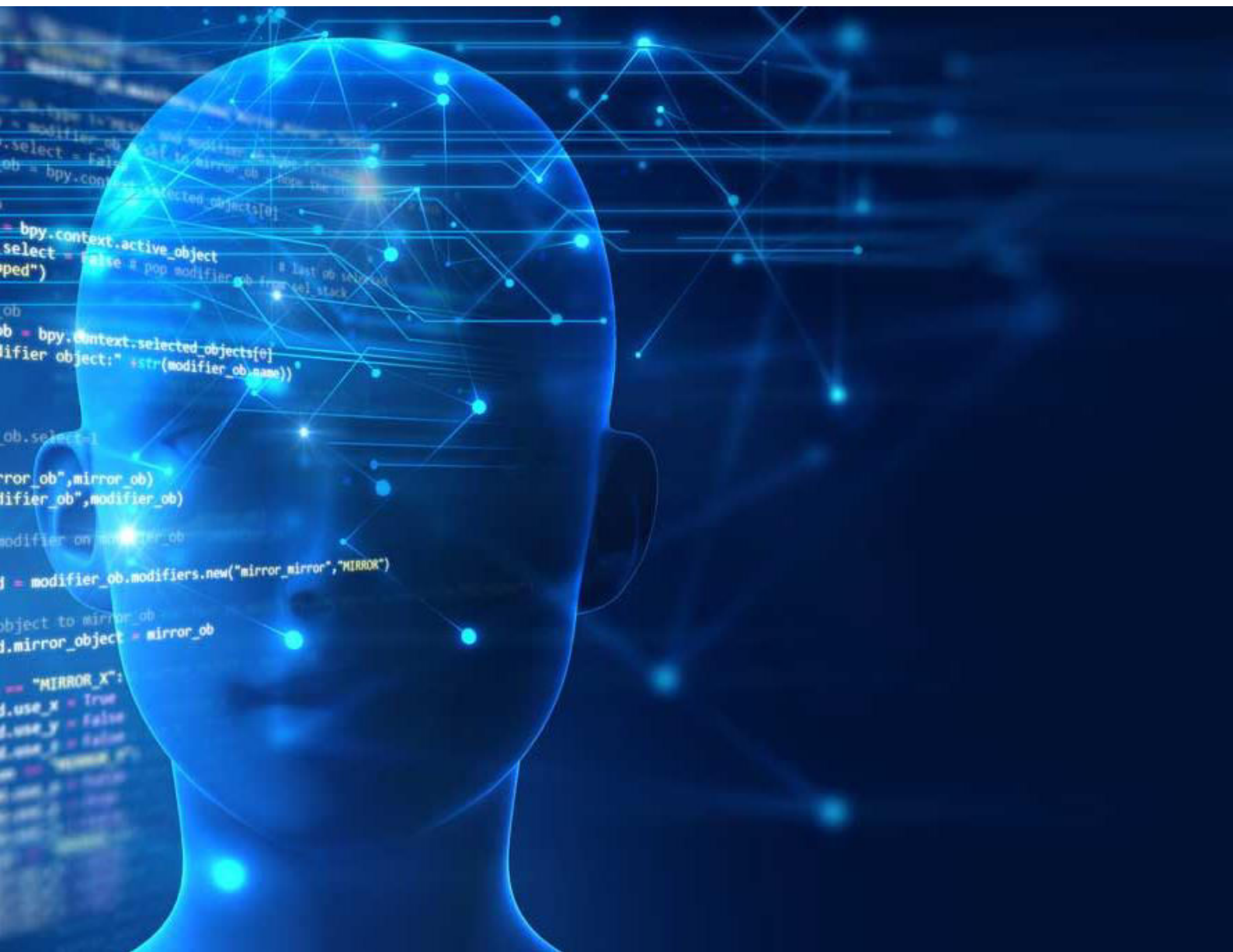


Data Science with Python

(Training Cum Internship Program)



Why Become a Data Scientist?

In today's evolving business environment, **data has been crowned the universal currency**. Competitive advantage is now also synonymous with how organizations can gather, analyze and assimilate learnings from data. Thousands of companies need team members who can transform data sets into strategic forecasts. Acquire in-demand data science and Python skills and meet that need.

Demand for data analysts has shot through the roof over the last 5 years. And, thanks largely to data coming in from the Internet of Things and advances in cloud computing, global data storage is set to grow from 45 zettabytes to 175 zettabytes by 2025. Data science salary is quite lucrative and that is why many young IT aspirants are choosing data science as their career option.



Who should attend this Program?



Students



Professional



PassOut

Designed for Students/ Working Professionals, Fresh Graduates, Self-starters, Career transformers with essential work experience.



Program Highlights



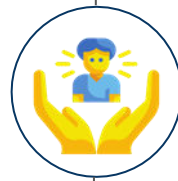
Live Instructor-Led Sessions



Code Reviews by Experts



Hands-on Live Projects



One-on-One with Industry Mentors



Hands-on Learning



Personalized Feedback on Assignments



Fundamentals to Advanced



Value added soft skills sessions



Assignments and Multiple-Choice Questions



Ask Expert Anything Sessions

Post Training Assistance

- Career Guidance Opportunities
- Long Term Internship Opportunity
- Long Term Mentorship
- Projects Support



Career Guidance Opportunities



Long Term Internship Opportunity



Long Term Mentorship



Projects Support

Course Curriculum

Python

❑ **Intro to Python**

- History of Python
- Why to use Python?
- Starting Python
- Interpreter PATH
- Using the Interpreter
- Python Scripts on UNIX/Windows

Hands-on: Learn about interpreters and Python Script.

❑ **Python Installation**

- Python Editors and IDEs
- Install Anaconda

Hands-on: Install Anaconda - Python distribution

❑ **String Operations**

- String Operations
- Data Types & Variables
- Commonly used Operators

Hands-on: Write Python code to implement string operations.

❑ **Data Structures in Python**

- Arrays
- Lists
- Tuples
- Dictionaries
- Sets

Hands-on: Write Python Code to understand and implement Python Data Structures.

Course Curriculum

❑ **Control & Loop Statements in Python**

- For Loop
- While Loop
- Break Statement
- Next Statements
- Repeat Statement
- if, if...else Statements
- Switch Statement

Hands-on: Write Python Code to implement loop and control structures in R.

❑ **Functions & Classes in Python**

- Writing your own functions (UDF)
- Calling Python Functions
- Functions with Arguments
- Calling Python Functions by passing Arguments
- Lambda Functions

Hands-on: Write Python Code to create your own custom functions without or with arguments. Know how to call them by passing arguments wherever required.

❑ **Data Structures in Python**

- Arrays
- Lists
- Tuples
- Dictionaries
- Sets

Hands-on: Write Python Code to understand and implement Python Data Structures.

Course Curriculum

❑ Regular Expression

- RE Objects
- Pattern matching
- Parsing data
- Subexpressions
- Complex substitutions
- RE tips and tricks
- Using Modules
- The Import Statement
- Module Search Path
- Package Installation Ways

Hands-on: Write Python Code to create modules and execute them.

❑ Object Oriented Programming

- Introduction to Python Classes
- Defining Classes
- Initializers
- Instance Methods
- Properties
- Class Methods and Data
- Static Methods
- Private Methods and Inheritance
- Module Aliases

Hands-on: Write Python code to construct a class and define objects

Course Curriculum

Data Science

❑ Data Science Foundation

- Introduction To Data Science
- Industry Applications
- Terminologies

❑ Python Essentials

- Anaconda - Python Distribution Installation And Setup
- Jupyter Notebook
- Python Basics
- Data Structures
- Control Statements

❑ R Language Essentials R

- Installation And Setup
- R Studio Basics
- R Data Structures
- Control Statements
- Data Science Packages

❑ Maths For Data Science

- Essential Mathematics
- Linear Algebra
- Linear Transformation
- Types Of Matrices, Matrix Properties, And Operations Probability And Calculus

❑ Statistics For Data Science

- Statistics Introduction
- Terminologies
- Inferential Statistics
- Harnessing Data
- Exploratory Analysis

Course Curriculum

- Distributions
- Central Limit Theorem
- Hypothesis Testing
- Correlation, And Regression

❑ **Data Preparation With Pandas**

- Numpy Array Functions
- Data Munging With Pandas
- Imputation
- Outlier Analysis

❑ **Visualization With Python**

- Visualization Basics
- Matplotlib Introduction
- Basic Plots
- Customizing Plots Sub-Plots
- Statistical Plots
- Seaborn Package Introduction

❑ **Machine Learning Associate**

- Machine Learning Introduction
- ML Core Concepts
- Unsupervised And Supervised Learning
- Clustering With K-Means
- Linear Regression
- Logistic Regression
- K-Nearest Neighbor

❑ **Advanced Machine Learning**

- Bayes Theorem
- Naïve Bayes Algorithm For Text Classification,
- Decision Tree
- Ensemble Methods: Random Forest, Extra Trees

Course Curriculum

- Svm, Boosting Techniques
- Xgboost
- Artificial Neural Network
- Adv Metrics
- Imbalanced Dataset
- Grid Search
- K-Fold Cross-Validation

❑ **Sql For Data Science**

- Relational Database Management
- Systems Basics
- Sql Introduction
- Connection To Sql Databases
- Fetching Data With Select
- Where Condition
- Sql Joins
- Sql Crud Operations

❑ **Deep Learning – Cnn Basics**

- Deep Learning Introduction
- Tensorflow And Keras
- Convolution Neural Network Basics
- End To End Image Classification Of Cats And Dogs Using The Tensorflow-Keras Platform

❑ **Tableau Associate**

- Visual Analytics Basics
- Tableau Introduction
- Connecting To Datasource
- Dimensions Vs Measures
- Basic Plots
- Compound Plots
- Forecasting
- Publishing

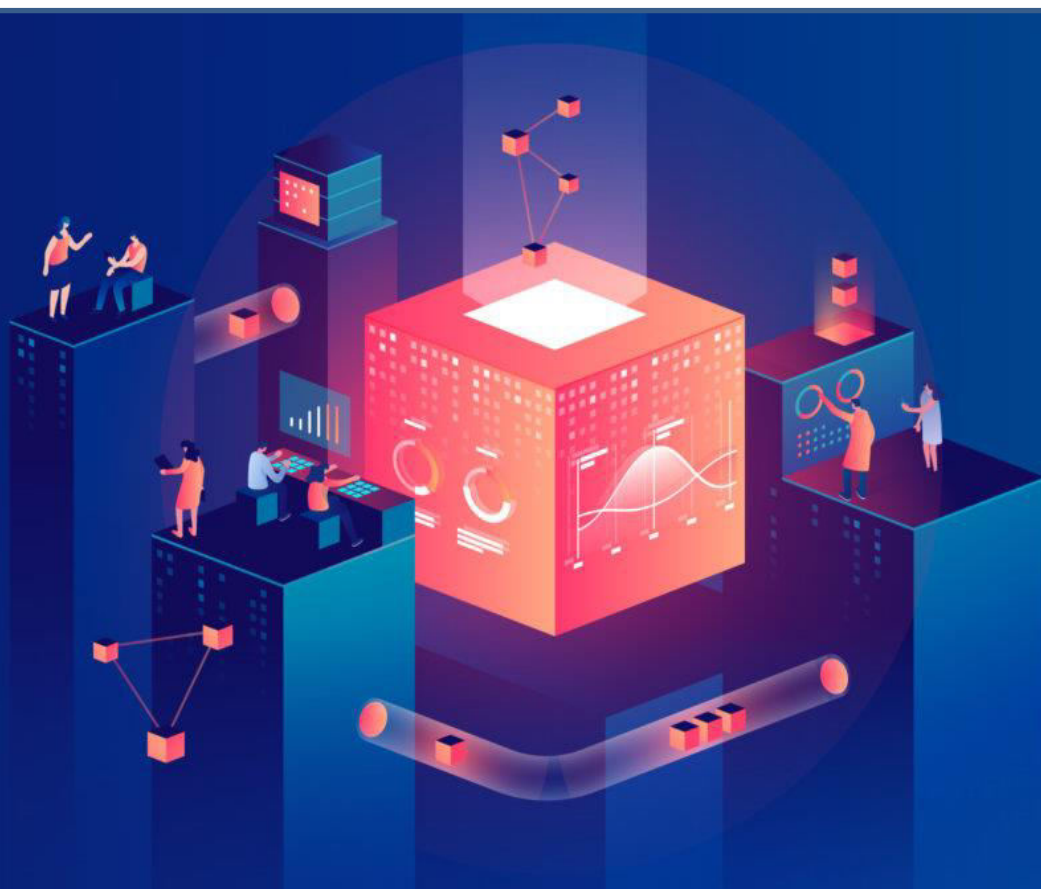
Course Curriculum

- ❑ **ML Model Deploy- Flask Api**
 - ML Deployment Strategies
 - Flask Introduction
 - Packing Training ML Model
 - Deploying It On Flask As Api

- ❑ **Data Science Project Execution**
 - Data Science Project Management Method
 - Business Case Risk
 - Limitation Of Machine Learning
 - Project Pitfalls

- ❑ **Big Data Foundation**
 - Introduction to Big Data

- ❑ **Hadoop Concepts**
 - Spark Big Data for Data Science Processing
 - Handling Big Data in the Machine Learning Pipeline.



Job opportunities in Data Science

Data Scientists are needed for businesses in every Industry. Even fortune companies as Google, Amazon, Apple, Facebook, Microsoft need data science experts who have in-depth knowledge of data extraction, data mining, visualization, etc. Some of the leading data science careers are,



Business Intelligence Developer



Applications Architect



Industry Architect



Enterprise Architect



Data Scientist



Data Architect



Data Analyst



Data Engineer

Test & Evaluation

The assessment for the theory & practical part is based on a knowledge bank of questions created by field experts and approved by E&ICT Academy.

To pass the qualification, every trainee should score a minimum of 50% cumulatively (Theory and Practical).

Assessment Comprises the Following Components:

- ❑ **Attendance and Punctuality Report**
- ❑ **Weekly Assignments (Theory - Hands-On)**
- ❑ **Weekly Tests (Basic-Advanced)**
- ❑ **Project**
 - Synopsis Process Report
 - Complete Project Report

Program Offerings

Class Content

- Content Co-created with Industry
- Real-world project
- Project reviews
- Project feedback from Expert

Student Services

- Technical mentor support
- Student community

Career Services

- Personal Career Coaching
- Interview Preparations



Tools and Technologies



Skills Covered In Program



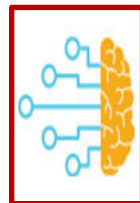
Python Programming



**Numpy, Pandas,
Matplotlib**



**Data
Preprocessing, Data
Visualization**



**Machine Learning,
Supervised and
unsupervised
learning**



**Scikit-
Learn, Exploratory
Data Analysis**



**Descriptive Statistics,
Inferential Statistics**



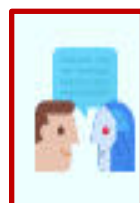
**Deep Learning – Cnn
Basics**



**Tableau, Big Data,
Hadoop Concepts**



**Natural Language
Toolkit (NLTK)**



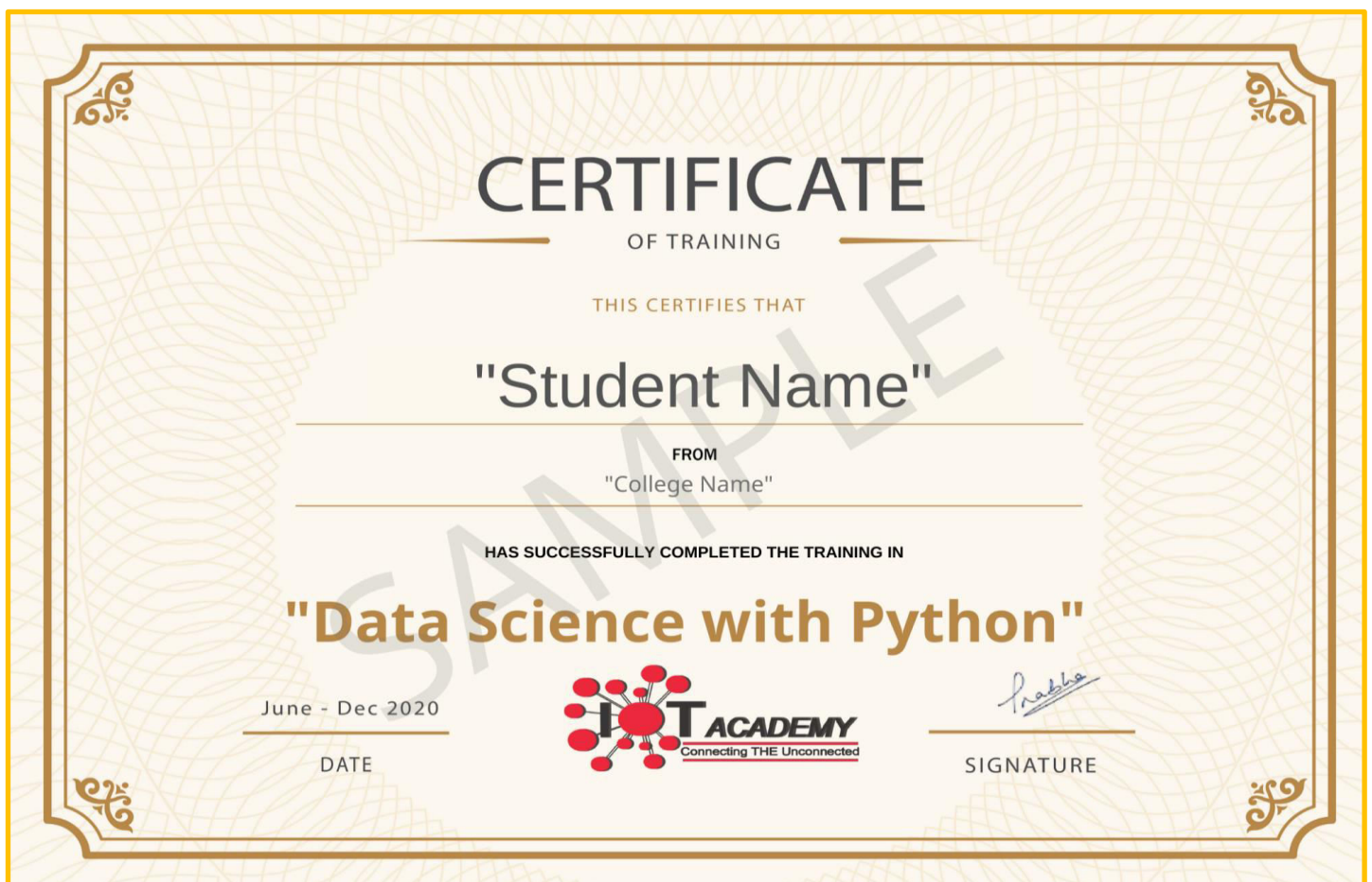
**Natural Language
Processing (NLP)**

Certification

Get eligible for 3 world-class certifications thus adding that the extra edge to your resume.

All successful participants will be provided with

- Certification of Completion from The IoT Academy
- Internship Certificate from Uniconverge Technologies
- A Project Completion Certificate



Course Details and Fees

Please find more information about the program and fees here:

<https://www.theiotacademy.co/data-science-with-python-training>

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For Business Inquiries

For corporate training, in-house or on-campus training, bulk enrollments, connect to us at connectus@theiotacademy.co

