About QuickXpert Infotech

Best institute for IT training and placements for classroom and online training for students and corporates. We are an ISO certified institute and in the industry since 2014. Our strong training and placement team have helped thousands of students build their career.

Courses - JAVA, Dot Net, Software Testing, Web Development, Full Stack Development, MERN, MEAN, Oracle, Digital Marketing, Python, Data Analytics, Data Science & A.I., Cyber Security, Salesforce, Service Now, Tableau, Power BI, Excel, React, Angular etc.

Live Projects - MarriageKing, theVibrantBirdie, CRM etc

Corporate Trainings - GeBBS Healthcare, NVest Solutions, Infogix, PDG Software, GMV India etc.

Syllabus mentioned below.

Tools You Learn

SQL

Basics & Installations

- Introduction to Database
- Definitions
- MySQL Or Oracle Server (SQL part is same)

DDL - Data Definition Language

- Tables - Create, Alter, Drop, Auto Increment
- Constraints - Not Null, Primary Key, Unique Key, Foreign Key
- Index - Why required, Create, Drop

DML - Data Manipulation Language

- Insert, Update, Delete & Truncate

Transactions

  - Commit & Rollback

DQL - Data Query Language (Select)

- Filters
  - Operators - <, <=, >, >=, =, !=
  - BETWEEN
  - IN

  - LIK
  - NOT
  - NULL
  - AND, OR, NOT
  - Multi conditions filtering
  - DISTINCT
  - Limit, offset
- Sorting
  - Ascending Order
  - Descending Order
  - Multi Column Sorting
- Functions
  - Data, number, characters, null values etc.
  - Case
- Groups
  - Grouping functions - AVG, MIN, MAX, COUNT, DISTINCT COUNT
  - Grouping Filters - HAVING
- Joins
  - Cartesian Product
  - Equi and Non-Equi Joins
  - Left Outer Join
  - Right Outer Join
  - Full Outer Join
  - Self Join
- SET Operators

  - Union, Union All, Intersect, Minus
- Subquery
  - Single Valued
  - Multi Valued
- Views & Inline Views
- Analytic (Window) Functions
  - Top N Analysis
  - Over() with summary functions
  - Partition By Queries
  - ROW_NUMBER()
  - RANK()
  - DENSE_RANK()
- Project

Python

Introduction

- What is Python? Features & uses
- Python installation & IDE setup (VS Code, PyCharm, Jupyter)
- Running Python programs (script mode vs interactive mode)
- Writing First program

Basics

- Variables & Data Types (int, float, str, bool)
- Input/Output functions (print(), input())
- Comments & indentation
- Type conversion & type() function

Operators

- Arithmetic operators (+, -, *, /, //, %, **)
- Comparison operators (==, !=, <, >, <=, >=)
- Logical operators (and, or, not)
- Assignment operators (+=, -=, etc.)
- Identity operators (is, is not)
- Membership operators (in, not in)

Control Flow

- if, elif, else statements
- Nested conditions

- for and while loops
- break, continue, pass

Data Structures

- Strings → indexing, slicing, methods
- Lists → create, access, update, iterate, list methods
- Tuples → immutable collections
- Sets → unique values, set operations (union, intersection)
- Dictionaries → key-value pairs, methods

Functions

- Defining & calling functions
- Function arguments (positional, keyword, default, variable-length *args, **kwargs)
- Return values
- Lambda (anonymous functions)
- Scope (local vs global variables)

Modules & Packages

- Importing built-in modules (math, random, datetime, os)\
- Creating your own modules
- Installing external libraries with pip

File Handling

- Opening & closing files

- Reading & writing (read(), write(), with open)
- Working with CSV and JSON files

Exception Handling

- try, except blocks
- finally, else in exceptions
- Raising exceptions (raise)
- Custom exceptions

Object-Oriented Programming (OOP)

- Classes & objects
- Constructors (__init__)
- Instance & class variables
- Methods (instance, class, static)
- Inheritance (single, multiple, multilevel)
- Method overriding
- Encapsulation & Abstraction
- Polymorphism
- Special methods (__str__, __len__, etc.)

Advanced Python Concepts

- Iterators & Generators (iter(), next(), yield)
- Decorators (function decorators, @staticmethod, @classmethod)
- Regular Expressions (re module)
- Project

Python Analytics

Working with APIs

- Sending HTTP requests with requests
- JSON handling

Database (MySQL) Connectivity

- MySQL Installation
- Basic CRUD Operations (create, read, insert, update, delete)
- MySQL with connectors

Python for Automation

- Automating tasks (file renaming, web scraping with BeautifulSoup)
- Sending emails with Python (smtplib)
- Working with Excel (openpyxl, pandas)

Python for Data Science

- NumPy → arrays, vectorized operations
- Pandas → DataFrames, Series, CSV/Excel handling

Python for Data Visualization

- Installing Matplotlib (pip install matplotlib)
- Basic Plots: Line chart, Bar chart, Pie chart
- Statistical Plots: Histogram, Scatter plot, Box plot

Machine Learning

Statistics & Probability

- Mean, Median, Mode, Variance, Standard Deviation
- Skewness, Kurtosis, Correlation, Covariance
- Probability Distributions: Normal, Binomial, Poisson
- Sampling, Central Limit Theorem
- Hypothesis Testing: t-test, z-test, ANOVA, chi-square
- Confidence Intervals, p-values, Type I & II errors
- Note – Few Statistics modules conducted as and when required

Exploratory Data Analysis (EDA)

- Data Preprocessing & EDA Overview
- Handling missing values, outliers, duplicates
- Encoding (One-hot, Label), Scaling (Standard, MinMax)
- Feature engineering, selection techniques
- EDA: Univariate, Bivariate, Multivariate analysis
- Visuals: Heatmaps, Pairplots, Boxplots, Violin plots

Supervised Learning

- Linear & Logistic Regression
- Decision Tree, Random Forest, KNN
- SVM with kernel functions
- Naive Bayes, AdaBoost, XGBoost
- Project 1: House Price Prediction
- Project 2: Email Spam Detection

Unsupervised Learning

- K-Means, DBSCAN, Hierarchical Clustering
- Dimensionality Reduction: PCA
- Project 3: Employee Role Segmentation

Model Evaluation & Optimization

- Metrics: Accuracy, Precision, Recall, F1, AUC, R2, RMSE
- Cross Validation, Stratified K-Fold
- Hyperparameter tuning: GridSearchCV,RandomizedSearchCV
- Imbalanced Data Handling: SMOTE, NearMiss

Time Series Forecasting

- Time Series Analysis Basics
- Trend, Seasonality, Noise, Stationarity
- ADF Test, ARIMA, SARIMA
- Facebook Prophet, Exponential Smoothing
- Project 4: Sales Forecasting

Natural Language Processing (NLP)

- NLP Basics
- Text preprocessing: Tokenization, Lemmatization, Stopwords
- BoW, TF-IDF, Word2Vec
- Text Classification, Sentiment Analysis
- Project 5: Sentiment Analysis of Product Reviews

A.I. & Deep Learning

Introduction to AI & Neural Networks

- Deep Learning vs Machine Learning
- Tech Advancement
- All about Artificial Neural Networks (ANN)
- Understand How Deep Neural Network Works?
- Different variants of Gradient Descent
- Stochastic Gradient Descent vs Adam vs Others
- Hyper parameter Tuning
- Batch Size
- Learning Rate
- Momentum

Deep Learning in Python

- Deep Learning packages in python
- Google TensorFlow Framework
- Model Building with default TFLearn API
- Keras Vs TFLearn Vs Pycharm APIs
- Model Building with Keras API Wrapper
- Activations | Optimizers | Losses
- Validation | Evaluation Metrics | Keras Backend
- Callbacks - Early Stopping, TensorBoard

Artificial Neural Networks (ANN)

- Perceptron, Multilayer Perceptron
- Forward & Backward Propagation
- Activation, Loss functions, Optimizers
- Overfitting, Regularization, Batch Normalization
- Project 6: Iris Flower Classification using ANN

Computer Vision (CNNs for Image Processing)

- Convolution, Pooling, Padding
- Transfer Learning (VGG, ResNet)
- R-CNN, Faster R-CNN
- Project 7: Handwritten Digit Recognition

RNNs & LSTMs

- RNN, LSTM, GRU, Bidirectional RNN
- Sequence Modeling, Time Series, Text Generation
- Project 8: Next Word Prediction using RNN & LSTM

Transformers & BERT (add on)

- Attention Mechanism, Transformer Architecture
- Using Pre-trained Models (BERT, RoBERTa)
- Embedding generation & fine-tuning
- Project 9: Sentiment Analysis using BERT (Transformers)

Generative AI, LLMs (Large Language Models) & OpenAI (add on)

- GenAI
  - What is GenAI? Prompt Engineering
  - Use cases: Q&A, Summarization, Image Generation
  - Ethical concerns & safety
- LLM Apps with OpenAI & LangChain
  - Using ollama
  - LangChain Pipelines, FAISS, ChromaDB
  - Chat with PDF, CSV, Excel
- Project 10: Flow Stack Machine Learning Project

Deployment & MLOps (add on)

- Web Deployment: Streamlit or Flask
- Create AWS Instance
- Model Deployment on AWS
- Note - this module will be mostly online as trainers are rare.

Please Note – projects mentioned can be changed and similar projects to be taken.

Power BI with A.I. & Power Automate

Introduction

- What is Power BI and Why Power BI
- Installing Power BI Desktop
- Exploring the Power BI Workflow
- Adjusting the settings of the Power BI Desktop
- Comparison of Power BI vs Other Reporting Tools

Data Transformation

- Connecting to different sources
- Connecting to multiple sources
- Different connecting Options (DirectQuery vs Import Data Vs Live Connection)
- Shaping and transforming data with Power Query
- Editing, Merging, Appending queries etc

Advance Importing techniques without coding

Data cleaning & Advance data cleaning

Data Modeling

- Introduction to Modeling
- Building Relational Models(Setup and Manage Relationships)
- Creating table relationships

- Understanding the filter flow
- Cardinality and Cross filtering

DAX

- Understanding Dax Syntax
- Calculated Columns vs Measures
- Common Dax functions and formulae
- Understanding the evaluation context in DAX

Data Visualization

- Creating Visualizations
- Color & Conditional Formatting
- Setting Sort Order
- Scatter & Bubble Charts & Play Axis
- Tooltips
- Slicers, Timeline Slicers & Sync Slicers
- Cross Filtering and Highlighting
- Visual, Page and Report Level Filters
- Drill Down/Up
- Hierarchies
- Constant Lines
- Tables, Matrices & Table Conditional Formatting
- KPI's, Cards & Gauges
- Map Visualizations
- Custom Visuals

- Managing and Arranging
- Drillthrough
- Custom Report Themes
- Grouping and Binning
- Bookmarks & Buttons

Power BI Service

- Introduction & Quick Tour
- Connecting to Data from Power BI service
- Building Blocks of Power BI Service
- Sharing and Collaboration Tools
    - Sharing and Collaboration Options Overview
    - Publish from Power BI Desktop
    - Publish Reports to Web
    - Printing and Exporting from Power BI Service
    - Sharing Reports & Dashboards
- Refreshing Datasets
    - What is refreshing?
    - Implementation

A.I. in Power BI

Advance Report techniques

Power Automate (Latest)

- Introduction
- installation
- Types of flows
- Actions
- Copy multiple excel, pdf files from one folder
- Merge PDF files together, Rename etc.
- Extract phones name and price from amazon

Best Practices

Project

Duration

- Weekdays (MTTF, Wed is off/practice break)
    - Option 1 – 6.5 to 7 months - 1.5 to 2 hrs/day
    - Option 2 – 5 months – 2 to 2.5 hrs/day
- Weekends (S S)
    - Option 1 – 8 months - 2 to 2.5 hrs/day
    - Option 2 – 6 months - 2.5 to 3 hrs/day

Please Note –

- Add on topics (Adv. Deep Learning) – 1 to 1.5 months extra (mostly weekends)

more info - https://quickxpertinfotech.com/data-science-course

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etc.

Our 5 Steps Process for Success

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Message

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