

## Adv. Training in Data Science, A.I. & Analytics

### About QuickXpert Infotech

QuickXpert Infotech provides professional training on some of the most updated, industry-designed certification & job-oriented training programs to both students & corporate from experts in classroom & online training format. Our wide range of courses blended by our placement process have helped students from both IT & non-IT fields to make career in IT Industry!

➤ **IT Courses - 1000+ Companies - 1000s Trained – Since 2014 !**

**Courses Offered** – JAVA, Dot Net, Software Testing, Web Development, Oracle Developer & DBA, MySQL, SQL Server, Digital Marketing, Python, Data Science & A.I., Data Analytics, Tableau, Power BI, Excel Analytics, R Programming, Hadoop, Android, Flutter, Salesforce, ServiceNow etc. please visit website for details.

**Our Live Projects** – MarriageBiodata.com, TeriMeriChoice.com etc.

## About the Course

People who know both Data Science (with ML and AI) & Analytics are among highly preferred candidates in company as they can do both analysis and prediction related tasks. Hence professionals who know both these fields are among good to highly paid professionals in Industry. Hence this course covers both the aspect to help you get maximum job opportunities in industry and get well paid in industry.

## Who Can Learn?

Fresher or Experienced from IT or non IT looking to make their career as Data Science and Analyst Field.

## Technologies

- ❖ SQL
- ❖ Tableau
- ❖ Statistics
- ❖ Data Science
- ❖ Adv. Machine Learning
- ❖ A.I
- ❖ Excel Analytics (free to those interested)

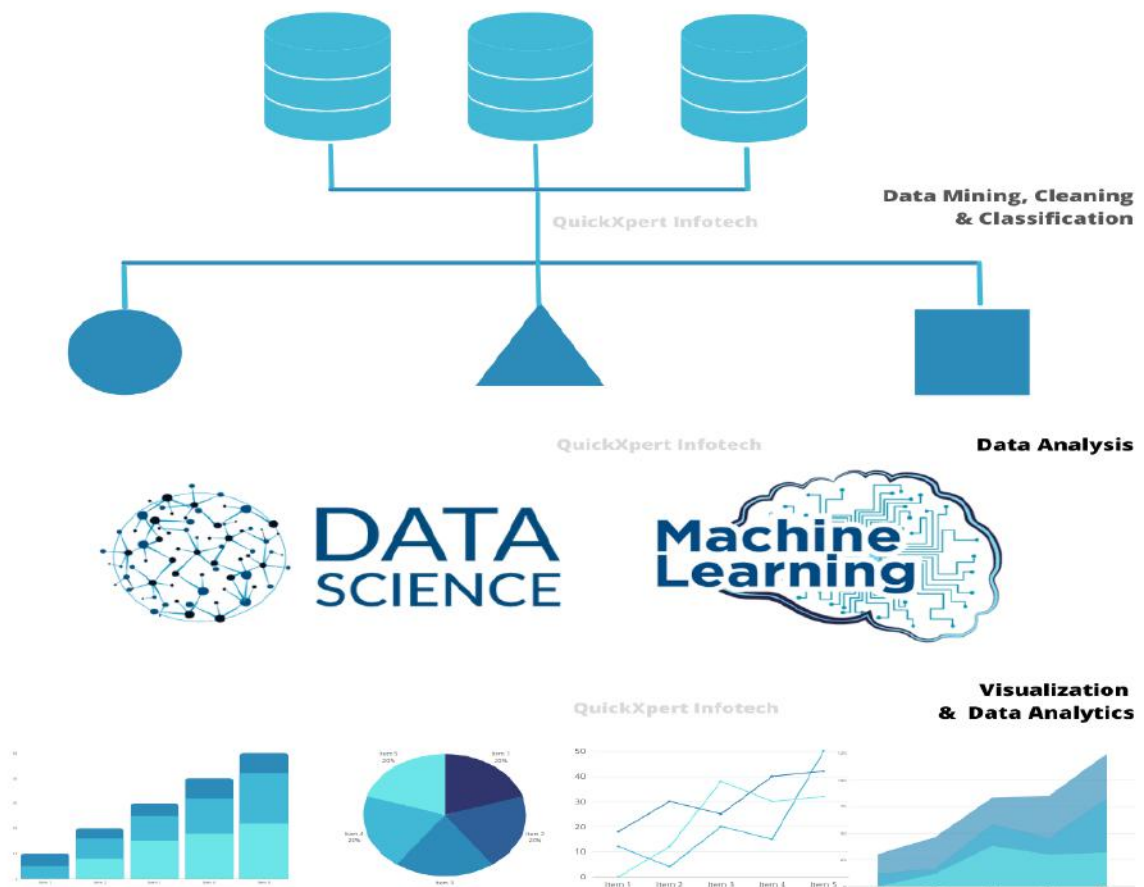
## Job Roles Targeted

- ❖ Data Engineer
- ❖ Data Scientist
- ❖ Data Analyst
- ❖ AI Engineer etc.

## Duration & Other Info

- ❖ 6 months
- ❖ Normally we have seen students get job in 2 to 5 interview calls.

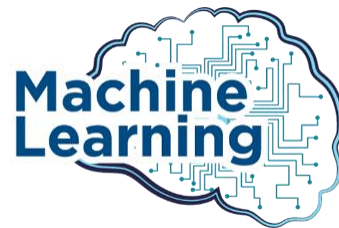
## Sample Data Science Application



## Tools You Will Learn



tableau®



etc.

# Introduction

## ❖ Introduction to Data Science & Analytics

- Core Skills
- Industries & Domain
- Need
- Data Science Project (DSP) Life Cycle
- Descriptive | Diagnostic | Predictive | Prescriptive Analytics

# SQL

## ❖ Installation & Configuration

## ❖ Using Professional Tool - MySQL Workbench

## ❖ Design Database

- Create Tables
- Implementing Foreign Keys
- Using Auto Increment

## ❖ Constraints

- Foreign Keys & index
- Primary key & index
- Unique key & index
- Not null constraint

## ❖ Index

## ❖ CRUD Operations

- Insert
- Update
- Delete

## ❖ **Select Queries**

- Basic Queries
- Using AND conditions
- Using OR conditions
- Using in, between, distinct and like keywords
- Sorting in ascending and descending order

## ❖ **Functions**

- Basic functions like lower case, upper case etc.
- Complex functions like position, left and ifnull

## ❖ **Groups**

- Basic Queries
- Using Having Clause
- Multi column groups

## ❖ **Joins**

- Creating Foreign Keys and use them in Joins
- Inner Join or Natural Join
- Left Outer Join
- Right Outer Join
- Full Outer Joins
- Complex Join Queries etc

## ❖ **Views**

## ❖ **Subquery**

## ❖ **Create Complex Queries**

- Using Joins, Groups, Views & Subquery all together
- Creating tables using queries
- Inserting, Update & Delete using Select Queries

## ❖ **Data Export & Import**

## ❖ **Creating Professional ER Diagram in MySQL**

# Tableau

## ❖ Introduction to Tableau

- Architecture
- Data Model
- Data Connection with single data sources
- Data Joins
- Working with multiple data sources
- Data Blending
- Difference between joining and blending data

## ❖ Tableau Interface

- Measures and dimension
- Shelves
- Show me
- Data Types
- Default Properties
- Marks Card
- Page Shelf
- Saving and sharing your work-overview
- Difference between .twb and .twbx
- Discrete vs Continuous

## ❖ Date Aggregations and Date parts

- Cross tab
- Totals & Subtotals

## ❖ Chart Types (Visualization)

- Bar Charts & Stacked Bars
- Pie Chart
- Line Graph with Date
- Line Graph without Date
- Area charts
- Tree Map
- Word Cloud

- Packed Bubble
- Box & Whiskers Plot
- Scatter Plots
- Highlight tables
- Heat maps

### ❖ **Advanced Visualization**

- Geographical fields
- Map options

### ❖ **Run Time Columns**

- Calculated Fields
- String Calculation
- Data Calculation
- Logical Calculation
- Numeric Calculation
- Parameters
- Table Calculations
- Level of detail

### ❖ **Data Formatting**

- Legends
- Highlights
- Labelling
- Number Formats
- Alignment

### ❖ **Advanced Functionalities**

- Sorting
- Groups
- Sets
- Hierarchy
- Reference and Trend Lines
- Edit Axis
- Bins



## ❖ Filters

- Dimension Filter
- Measure Filter
- Filter - Display Option
- Context Filters
- Relevant Filters
- Sets in filters
- Conditional Filters

## ❖ Advanced Charts

- Pareto
- Waterfall
- Funnel
- Waffel Chart

## ❖ Dashboards

- Dashboard Objects
- Dashboard Actions
- URL
- Highlight
- Filter
- Advanced Interactivity
- Publish to Web

## ❖ Story Telling for Excellent Visualization (power of Tableau)

## ❖ Complex Dashboards using Multiple Data Sources

- from SQL (MySQL)
- from Flat Files (CSV / Excel etc.)
- from Data Science & M.L. output

## ❖ Project

# Python for Data Science

## ❖ Python Programming

- Installing Anaconda & Python v3 | Git Bash
- Basics - variables, constants etc.
- Python Programming - If..else, while loop, for loops etc.
- Logic Building Sessions
- Functions
- Classes
- OOPs
- Collections
  - List
  - Dictionary
  - Tuple
  - Array
  - Set
- Exception Handling
- SQL Database Integration
- File IO

## ❖ Data Analytics in Python

- Installing & Understanding Analytics Packages
- **NumPy** Array Operations
- **Pandas** Data Frame Operations
- Data Acquisition (Import & Export)
- Indexing
- Selection
- Sorting
- Filtering
- Group By
- Binning
- Concatenation
- Merge
- Append
- Drop

## ❖ Data Visualization in Python

- Installing Libraries
  - Matplotlib
  - Seaborn
- Charts & Plots
  - Histogram
  - Scatter Plots
  - Box Plots
  - Line Chart
  - Bar Chart
  - Pie Chart etc.
- Dashboards
- Project

# Data Science & Machine Learning

## ❖ Statistics & Exploratory Data Analysis (EDA)

- Descriptive Statistics
- Measure of Central Tendency
- Dispersion
- Probability Distribution
- Correlation & Covariance
- Data Wrangling (Munging)
- Outliers | Missing Values
- Sparsity
- Inferential Statistics
- Random Sampling
- Hypothesis Testing

## ❖ Time Series Forecasting

- Time Series Data
- Trend Chart
- Stationarity
- Seasonality
- Moving Average
- Exponential Smoothing
- ARIMA
- GARCH

## ❖ Supervised Learning

- Installation & Use of Scikit-Learn package
- Linear Regression
- Multi-Linear Regression
- Stepwise Regression
- Logistic Regression
- Sigmoid Function
- Entropy
- Information Gain

- Gini Index
- Decision Tree (CART)
- Ensemble Learning
- Random Forest
- xgBoost
- K-Nearest Neighbors (KNN)
- K Selection
- Distance Metrics
- Support Vector Machine (SVM)
- Kernel Functions
- Naive Bayes Classifier (NBC)
- Perceptron Learning
- Multi-Layer Perceptron (MLP)

## ❖ Unsupervised Learning

- Hierarchical Clustering
- Dendrograms
- Centroid Based Clustering
- K Means Clustering
- Association Rule Mining
- Recommendation Engine

## ❖ Model Improvement & Validation

- Regularization
- Lasso
- Ridge
- ElasticNet
- Cross Validation
- Confusion Matrix
- ROC Curve
- Overfitting
- Underfitting Problems
- Precision vs Recall
- F1 Score - Type I vs Type II Error
- Ensemble Modeling (Bagging | Boosting | Stacking)

- Feature Selection & Feature Extraction
- Dimensionality Reduction
- Principal Component Analysis (PCA)
- Multi class Classification
- Linear Discriminant Analysis (LDA)
- Scree Plot
- Elbow Method

## ❖ **When to Use Which Algorithms with Projects & Case Studies**

### ❖ **Projects / Case Studies**

- Real Estate Price Prediction
- Fraud Detection Problem in BFSI domain
- Disease Detection in Healthcare domain
- Market Segmentation in Advertising Sector
- Market Basket Analysis in Departmental Sector
- Passenger Forecasting in Aviation Sector
- News Classification in Media Sector
- Dashboard Visualization on Tableau

# Deep Learning & A.I.

## ❖ 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

## ❖ CNN - Convolutional Neural Networks

- Understanding Architecture & Visualizing a CNN
- Kernel
- Depth
- Pooling

## ❖ **RNN - Recurrent Neural Networks**

- Recurrent Neural Network Model
- Training RNNs with Back-propagation
- Long Short-Term Memory (LSTM)
- Gated Recurrent Unit (GRU)

## ❖ **Text Analytics / Natural Language Processing (NLP)**

- Understanding Text Mining & Analytics
- Tokenization
- Stop Word Removal
- Stemming
- Lexical Analysis

## ❖ **Projects / Case Studies**

- Image Recognition using MNIST Dataset
- Object Recognition using CIFAR-10 Dataset
- Speech Recognition (Google Voice | Alexa | Siri)
- Sentiment Analysis and Word Clouds
- Chat Bot Building

## ❖ **End to End Project (Bonus)**



## Our Benefits

- ❖ **Training from Experts**
- ❖ **Professional Notes & Study Material Provided**
- ❖ **Certification Course**
  - All Participants will get Course Completion ISO Training Certificate from our Institute
- ❖ **Internships with Internship Certificate**
- ❖ **Job Oriented Course**
  - Learn from Scratch
- ❖ **80% Practicals**
- ❖ **Live Projects / Case Studies**
- ❖ **Best Placements**
  - Dedicated HR Team for Placements, Overall 1000+ Companies for Placements, Check Recent Placed Students on Site / FB / Google Page
- ❖ **Installments Available**
- ❖ **Personal Mentorship**
  - Limited Seats per batch.
- ❖ **Interview Prepare Sessions & Mock Interviews**
- ❖ **Resume Building etc.**

Please visit site for more info

## Our 5 Steps Process for Success



## Contact Us

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**Website & Other Info:** [www.quickxpertinfotech.com](http://www.quickxpertinfotech.com)

**Inquire Now !**

