

Data Science Master Program

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, R Programming, Hadoop, Android, Flutter, Salesforce, ServiceNow etc. please visit website for details.

Our Live Projects – MarriageOnix.com, BiodataKing, CRM Support etc.

About the Course

Background - Every Big Companies are sitting on huge amount of data which need to be analyzez to extract meaningful insights out of it which will eventually help in growth and expansion of company. So Here Data Scientist come in picture to perform data analysis. So Basically Data Science is a Umbrella term that houses multiple nodes like Data Analysis, Data Mining, Data Cleaning, Data Analytic, Data Visualization, Predictive Analysis etc.. Statistics, Machine Learning, Neural Networks, A.I. etc provides required implementations to implement Data Science in a Company. *Hence in this training program you will learn all above to become a Professional Data Scientist !*

Who Can Learn?

Fresher or Experience with average IQ looking to make their career in Data Science, Data Analyst, Data Engineering or Field related to Data. None! As we teach from scratch to advanced modules.

Duration

4 to 4.5 months

Tools You Will Learn



Syllabus as mentioned below:

Syllabus

❖ Introduction to Data Science & Machine Learning

- Core Skills
- Industries & Domain
- Need
- Data Science Project (DSP) Life Cycle

Python

❖ Python Programming

- Introduction & Features
- Installing Anaconda -Jupyter Notebook
- Basic Variables, Constants etc.
- Operators
 - Arithmetic
 - Comparison
 - Logical
 - Assignment
- Data types
 - Numeric data - integer, float, complex
 - Non -numeric data - String
 - Collection data
 - List
 - Tuple
 - Dictionary
 - Set
 - Logical data - True/False
- Conditional Statement
 - If/else
 - If,elif/else
 - Nested
- Loops
 - While Loop (Infinite)
 - For Loop (Finite)
 - Break/continue/Pass

- Functions
 - Default/inbuilt Function
 - User define Function
 - Anonymous/Lambda Function
- Object Oriented Programming (OOPs)
 - Class
 - Object
 - Constructor
 - Inheritance
- Collections
 - List
 - Dictionary
 - Tuple
 - Array
 - Set
- Exception Handling
- SQL
 - MySQL Installation
 - CRUD Operations – Select, Update, Read, Delete
 - Database Integration with Python
- File IO

Python Analytics & Visualization

❖ 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

❖ Data Pre-Processing

- Null Value/Treatment/Imputation
 - Mean
 - Median
 - Mode
- Outliers Treatments
 - Winsorization
 - Replacing/cap Method
 - Trimming
- Encoding Techniques
 - Dummies/One_hot Encoding
 - Label Encoding
 - Standardization/Normalization
 - Zero variance

❖ Supervised Learning

- Installation & Use of **Scikit-Learn** package
- **Regression**
 - Linear Regression
 - Simple Regression
 - Multiple Regression
 - K-Near Neighbour Regression
 - Decision Tree Regression
 - Support Vector Machine Regression
 - Naive Bayes Regression
 - Ensemble Learning
 - ✓ Bagging
 - ✓ Boosting
 - ✓ Random Forest
 - ✓ Stacking
 - ✓ Voting

- **Classification**

- Logistic Regression
- Multinomial Regression
- Multiordinal Regression
- K-Near Neighbour Classification
- Decision Tree Classification
- Support Vector Machine Classification
- Naive Bayes Classification
- Ensemble Classification
 - ✓ Bagging
 - ✓ Boosting
 - ✓ Random Forest
 - ✓ Stacking
 - ✓ Voting
- Model Evaluation Metrics
 - Regression
 - ✓ Root Mean Square Error (RMSE)
 - ✓ Mean Square Error (MSE)
 - ✓ Mean Absolute Error (MAE)
 - ✓ Mean Absolute Percentage Error (MAPE)
 - Classification
 - ✓ Confusion Matrix
 - ✓ F1-Score
 - ✓ Accuracy
 - ✓ Specificity
 - ✓ Precision vs Recall

❖ **Unsupervised Learning**

- Clustering
 - Hierarchical Clustering
 - K-means Clustering
 - DBSCAN
- Association Rule
- Recommendation Engine
- Principal Component Analysis (PCA)

❖ Model Improvement & Validation

- Regularization
- Overfitting
- Underfitting
- Lasso
- Ridge
- ElasticNet
- Cross Validation
- Hyper Parameter Tuning
- ROC Curve
- Feature Selection & Feature Extraction

❖ Time Series Forecasting

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

❖ Projects / Case Studies

- **Please Note** – Below mentioned projects will be covered at end of respective modules from time to time and not one shot at end of completion of course.
- Real Estate Price Prediction
- Fraud Detection Problem in BFSI domain
- Disease Detection in Healthcare domain
- Loan Application Status Predication
- Market Basket Analysis in Departmental Sector
- Passenger Forecasting in Aviation Sector
- Zomato Restaurants Analysis

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)

❖ Natural Language Processing (NLP)

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

❖ Projects / Case Studies

- **Please Note** – Below mentioned projects will be covered at end of respective modules from time to time and not one shot at end of completion of course.
 - 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

Our Benefits

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

Please visit site for more info or reach us

Our 5 Steps Process for Success



Contact Us

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Inquire Now !

