Data Science Specialization Program

ABOUT THE PROGRAM:

At Regex Software, we take pride in being a leading Data Science training institute in Jaipur, offering top-notch education and career support. With increasing demand for data scientists, this field offers some of the most lucrative career opportunities. Join the best Data Science course in Jaipur with Regex Software and take the first step towards a successful career. Limited seats available – enroll today!

Our course stands out among the top Data Science engineering courses in Jaipur, covering essential skills like Python, Machine Learning, Statistics, SQL, Big Data tools, and advanced data visualization. Learners also get exposure to real-world projects and tools used by top companies, giving them a competitive edge in the job market.

Mode:	Duration:	Participants:
Physical (Jaipur) or Online (Google Meet)	10 Months + 6 Months Support	18 – 20 per Batch

What you will Learn ?

Python	Machine Learning	Deep Learning	Generative Ai	Agentic Ai	Airflow
HDFS	Hadoop	Kafka	Data Warehousing	ETL	Databricks
Snoflake	Map-Reduce	Power BI	Apache Spark	AWS	

⊕ Study Material

- E-Notes
- Assignments & Poll test
- Live Video Lectures
- Access of Recordings & Study Material
- Mentorship Support
- Work on multiple Minor Projects & Use Cases
- Work on Live Projects

⊕ Output

- Able to think out of the box
- Become expert in multiple technology domains like: Python, Machine Learning, Deep Learning, Map Reduce, Apache Spark, Generative Ai, Kafka, and AWS(for deployment)
- Understand working of ML models deployment with AWS
- Build projects on multiple technology domains
- Work on more than 25 Use CASES & Projects
- Learn to deploy your models on AWS Sagemaker or Google cloud Platform

DATA SCIENCE

Package Offered So Far

IT Candidates	Non-IT Candidates
◉ **Minimum Package** 4 LPA	◉ **Minimum Package** 3 LPA
◉ **Average Package** 4 – 6 LPA	◉ **Average Package** 3.5 – 5 LPA
◉ **Overall Highest Package** 39 LPA	◉ **Overall Highest Package** 14.5 LPA

Extra Sessions:
Additinal Session on GIT, Linux, Docker, AWS Basics, Jenkins and many more for all students.

Our Students Placed // Partnership

amazon · Microsoft · Goldman Sachs · intel · Google · fractal · paytm · Myntra · Adobe · IBM

ORACLE · vmware · HCL · hp · Honeywell · cognizant · Capgemini · wipro · Infosys · Dell

PLACEMENT PROCESS:

At **REGex Software**, we are committed to providing a structured and results-driven training approach to ensure your career success.

- ◆ **Training & Performance Analysis:**
  - Your training will begin from day 1 of your joining, focusing on hands-on learning and practical implementation.
  - Our team will analyze your performance based on assignments, projects and weekly assessments from the **second week onwards** and we will provide **weekly feedback** to help you improve.
- ◆ **Mandatory Criteria for Placement Opportunities:**

  To be eligible for placement opportunities, you must meet the following criteria:

  ✅ **80% attendance** in live training sessions.

  ✅ **80% completion and timely submission** of assignments & projects.

  ✅ **80% attendance** in assessments, including **tests, mock interviews, HR interviews and group discussions**.

- ◆ **Resume Preparation & Placement Process:**

  - Between **5.5 to 6 months**, our team will provide guidance on **resume building** and evaluate your resumes accordingly.
  - After completing **75-80% of the program**, you will receive details about the placement opportunities based on your **performance and company requirements**.
  - Placement opportunities will be provided **continuously** via **email, calls and WhatsApp groups**, depending on your performance.

- ◆ **Placement Assurance & Refund Policy (Applicable only for Indian Students Only):**

  - This is a **Placement Assured Program**, with an additional **6-month post-program assistance**.
  - IT Graduates who passed out in 2025 or later (Regular B.tech, BCA, M.tech, MCA programs) are assured a minimum salary package of 4LPA upon placement. However, for IT Graduates who passed out in 2024 or earlier, having gaps in their academics, as well as for Non-IT Graduates (graduates other than regular B.tech, BCA, M.tech, MCA programs), the minimum guaranteed package will be 3LPA.
  - In the event that you have attended & completed at least 80% of the program, submitted and finished at least 80% of the assignments, Tests, Mock Interviews & HR Interview and still do not secure a placement then REGEX will refund your fees with a 9% Annual interest rate. Furthermore, Refunds are applicable only within the first 3 days of the demo period and solely in cases where a specific concern is raised regarding the quality of the learning experience provided. You will receive an official notification email from our team on the third day at 7:30 PM, confirming the completion of your demo period. Requests for a refund of the registration amount must be submitted prior to the issuance of this email. No refund requests will be entertained after this time and Even if you discontinue the program prematurely, you are still obligated to pay the full fee to REGex.
- ◆ **Our Commitment to Your Success:**

  At **REGex Software, Placement Assurance = Skills + Opportunities**

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  We equip you with **industry-relevant skills** and provide continuous **job opportunities** based on your performance. However, it is the **student's responsibility to crack interviews** and enhance their skills based on feedback.

  For additional support, we offer the flexibility to **rejoin previous batches** to reinforce concepts and improve understanding.

  We are dedicated to your career success! 🚀

COURSE CONTENT:

Week 1 - 4

C Logical Programming
- **Data Types**
- **Variables**
- **Variable Scope – Local, Global**
- **Constants**
- **Operators**
- **Decision Making Statements**
  - **if Statement**
  - **if...else**
  - **switch**
- **Loops**
  - **while Loop**
  - **do...while Loop**
  - **for Loop**
- **Basic I/O Functions**
  - **scanf() and printf() usage**

Week 5

Linux
- **Introduction to Linux**
- **Basic Linux Commands**
- **Using the Vi Editor**
- **Tar Archives (Compression & Extraction)**
- **User Management and Permissions**

GitHub
- **Difference Between Git and GitHub**
- **Common Git Commands**
- **Git Branches**
- **Branching and Merging**
- **Git Push vs Pull**

Week 6

Deep Dive into Python Programming

Topics Covered
- **Introduction to Python**
- **Data types**
- **Immutable vs mutable data types**
- **String formatting and slicing**
- **Conditional statements**

Setup and Tools
- **Install Python: Watch Tutorial**
- **Jupyter Notebook: Setup Guide**

Week 7

Deep Dive into Python Programming

Topics Covered
- **Introduction to looping statements**
- **For loop vs while loop**
- **String data type**
- **String manipulation**
- **Sequential data types**
- **List vs tuple**
- **Problem solving with list data type**

COURSE CONTENT:

Week 8

Deep Dive into Python Programming

Topics Covered
Dictionary and Sets
- In-built functions related to sequential data types
- List comprehension, set comprehension, and dictionary comprehension
- Problem solving with data types

Practice and Problem Solving
- LeetCode: Two Sum
- LeetCode: Contains Duplicate
- LeetCode: Two Sum II (Input Array is Sorted)

Functions and Beyond
- Introduction to functions
- In-built vs user-defined functions
- Types of parameter passing in functions
- Functions vs lambda functions
- Exception handling
- File handling
- Generators and iterators

Week 9

Deep Dive into Python Programming

Topics Covered
- Introduction to OOP concepts
- Creating your first class and objects
- Inheritance, polymorphism, abstraction, and encapsulation
- Use cases of __init__ and __main__
- Advanced topics in Python

Milestone
- Achieve Hackerrank 5 Star

Practice and Problem Solving
- LeetCode: Valid Parentheses
- Extract elements with frequency greater than K – GeeksforGeeks
- Remove multiple empty spaces from string list – GeeksforGeeks

Week 10

Advanced Python for Data Science

Topics Covered
- NumPy: Basics and Array Manipulations
- Pandas: Series, DataFrames, Indexing, Merging, Grouping
- Visualization:
  - Matplotlib: Line plots, bar charts, customization
  - Seaborn: Basic statistical plots, aesthetics

Week 11

Projects – Data Analysis & Visualization

Mini Projects
- Supply Chain Analysis
- Use Pandas to analyze product flow, inventory, and delivery timelines.
- Product Reviews Sentiment Analysis
- Perform text preprocessing and visualize sentiment trends.

Capstone ML Project

- Employee Attrition Prediction using ANN
- Build an Artificial Neural Network to predict employee attrition using HR analytics data.

COURSE CONTENT:

Week 12

Feature Engineering I + Mini Deep Learning Project

Feature Engineering Essentials
- **Understanding Feature Engineering**
- **Normal Distribution of Data**
- **Standardization vs Normalization**
- **Encoding Techniques:**
  - **Label Encoding**
  - **Ordinal Encoding**

Mini Project
Image Classification using Pre-trained Models
Utilize transfer learning with models like VGG16, ResNet, or MobileNet for classifying images.

Week 13

Feature Engineering II
- **OneHot Encoding & get_dummies**
- **ColumnTransformer & FunctionTransformer**
- **Building Pipelines in sklearn**
- **Basic Feature Selection Techniques**

Week 14

Supervised Machine Learning Models
- **Linear & Logistic Regression**
- **Decision Trees & Random Forest**
- **SVM (Support Vector Machines) – Basics**
- **Naive Bayes Classifier**

Week 15

Ensemble & Unsupervised Learning
- **Bagging, Boosting, Voting Classifiers**
- **K-Means Clustering**
- **PCA (Principal Component Analysis)**
- **Apriori Algorithm (Association Rules Mining)**

Week 16

Gradient Descent Techniques

- Basic Gradient Descent (GD)
- Stochastic Gradient Descent (SGD)
- Mini-Batch Gradient Descent

Week 17

Intro to Deep Learning & ANN

- ANN Architecture: Layers, Weights, Biases
- Activation Functions: Sigmoid, ReLU, Tanh, Softmax
- Optimizers: SGD, Momentum, NAG, RMSProp, AdaGrad

Week 18

Convolutional Neural Networks (CNN)

- Understanding Image Data
- CNN Architecture: Padding, Stride, Kernel, Feature Maps
- Transfer Learning with Pre-trained Models:
  - MobileNetV2
  - VGGNet

Week 19

RNN, LSTM, GRU

- Introduction to Sequential Data
- RNN Workflow
- Comparison: LSTM vs GRU
- Sequence Handling: Padding and Masking

Week 20

NLP & Generative AI

- Text Preprocessing: Cleaning, Tokenization, Stopwords, Lemmatization
- Word Embeddings: Word2Vec, TF-IDF, GloVe
- Transformers Architecture and Use-Cases
- LangChain: Data Loading, Vector DBs, LangGraph

COURSE CONTENT:

Week 21

Production-Grade GenAI Projects + AWS
- FastAPI for Model Deployment
- Vector Databases: FAISS, Chroma
- AWS Cloud Stack: EC2, Lambda, API Gateway, RDS, SageMaker, Bedrock
- DevOps: CI/CD, Docker, Kubernetes
- Capstone Projects:
  - Blog Generation with Bedrock + Lambda
  - GenAI Chatbot using Gemini, Streamlit, Docker, PostgreSQL
  - Full 3-tier Architecture with AWS MCP

Week 22

Final Wrap-up
- Interview Preparation
- Mock Rounds
- Final Test & Milestone Achievement

Week 23

Microsoft Excel Essentials
- Excel Introduction
- HLookup vs VLookup
- Basic to Advanced Functions
- Pivot Tables & Visualizations

Week 24

SQL Mastery – Foundations
- E-R Diagrams: Entities, Relationships, Symbols
- Database Basics: Types, DBMS vs RDBMS
- SQL Overview: DDL, DML, SELECT Statements
- Resources:
  - Install MySQL
  - Sakila DB Import
  - SELECT Statement

COURSE CONTENT:

Week 25

SQL Mastery – Queries & Functions

- **Operators & SQL Querying**
- **String, Date, and Number Functions**
- **Aggregation, Group By, Sorting**
- **WHERE vs HAVING**
- **Resources:**
  - **MySQL String Functions**
  - **Functions Video**

Week 26

SQL Mastery – Joins & Subqueries

- **Subqueries: Types & Use Cases**
- **Joins: Inner, Outer, Self, Cross, Natural**
- **Practice:**
  - **SQLZoo Joins**
  - **Self Join Questions**

Week 27

SQL Mastery – Keys, Constraints & Normalization

- **SQL Constraints & Key Types**
- **Data Normalization: 1NF, 2NF, 3NF, BCNF**
- **DDL Statements: CREATE, DROP, ALTER**
- **Resources:**
  - **Normalization Concepts**
  - **Microsoft Normalization Guide**

Week 28

SQL – Transactions & Control Commands

- **DML: INSERT, UPDATE, DELETE**
- **TCL: COMMIT, ROLLBACK, SAVEPOINT**
- **DCL: GRANT, REVOKE**
- **Milestone: HackerRank SQL Certificate**

COURSE CONTENT:

Week 29

SQL – Advanced Querying
- **Analytical & Window Functions**
  - PARTITION BY, GROUP BY Enhancements
- **Target: HackerRank Gold Badge (5⭐)**

Week 30

SQL – Indexing & Views
- **Indexes:**
  - **Clustered vs Non-Clustered**
  - **Composite vs Column Index**
- **SQL Views:**
  - **Types & Use Cases**
  - **Complex View Management**
- **Activity: SQL Revision**

Week 31

SQL – PL/SQL Essentials
- **PL/SQL Programming**
  - **Procedures, Conditional Statements, Loops**
  - **Cursors: Types & Use Cases**
  - **Triggers: DML & Audit**
  - **Error Handling**
- **Projects:**
  - **Library Management System**
  - **Bookstore Data Analysis**
- **Wrap-Up: Advanced SQL Topics**

Week 32

Data Engineering for Machine Learning
- **Role & Tools in Data Engineering**
- **Data Pipelines & Lifecycle**
- **Schema Design: Star vs Snowflake**
- **ML System Integration Overview**

Week 33

Data Ingestion & Storage
- Ingesting Files: CSV, JSON, APIs
- Cloud Storage: AWS S3 / GCS
- scikit-learn Pipelines

Week 34

End-to-End ML Pipelines
- Batch vs Real-Time Inference
- Complete ML Flow: Ingestion → Training → Deployment

Week 35

MLlib on Databricks
- Introduction to MLlib
- Benefits on Databricks
- Transformers & Estimators
- Handling Missing & Categorical Data
- Supervised Learning Algorithms

Week 36

Power BI – Introduction
- What is Power BI?
- Components: Desktop, Service, Mobile
- Importing: Excel, CSV, JSON, SQL, APIs
- Direct Query vs Import Mode
- Understanding Cardinality

Week 37

Power BI – Data Modeling
- Table Relationships, Cross-filtering
- Star vs Snowflake Schema
- Column Transformations: Split, Merge, Fill
- Filtering & Cleaning Rows

COURSE CONTENT:

Week 38

Power BI – DAX & Visualizations
- DAX Basics: SUM, COUNT, IF, SWITCH, CALCULATE, RELATED
- Charts: Bar, Line, Pie, KPI, Maps, Matrix
- Filters: Visual/Page/Report
- Slicers & Cross-page Sync
- Projects:
  - HR Attrition
  - Profit & Loss Statement
  - Time-Series Analysis

Week 39

Real-Life Use Case Practice
- Hands-on problem solving
- Workflow revisions

Week 40

Mock Interviews & Final Prep
- External mock rounds
- Final evaluations and career readiness

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