



Data Science with Artificial Intelligence

 Tpoint Tech

Module 1: Python for Data Science

Python for Data Science is the most widely used programming language because of its simplicity, versatility, and powerful libraries.

Core Python

- Data types, loops, functions, OOP basics
- File handling & exception handling

Libraries

- **NumPy:** arrays, vectorized operations, merge
- **Pandas:** DataFrames, data manipulation, merge/join, aggregations
- **Matplotlib:** visualizations, plots, 2D visualizations, scatter plots

Module 2: MySQL Database

MySQL is one of the most popular relational database management systems (RDBMS), widely used for storing and managing structured data. In this module, you will learn how to create, query, and optimize databases using MySQL commands and features.

- **SQL Basics in MySQL:** CREATE, SELECT, WHERE, ORDER BY, filtering, and aggregate functions (SUM, COUNT, AVG, MIN, MAX).
- **Joins & Subqueries:** INNER JOIN, LEFT/RIGHT JOIN, CROSS JOIN, CTE, and writing nested queries for complex data retrieval.
- **Set Operators in MySQL:** UNION, UNION ALL, and handling duplicate records.
- **Window Functions:** RANK(), ROW_NUMBER(), DENSE_RANK(), LAG(), LEAD() (supported in MySQL 8.0+).
- **Database Objects:** Stored Procedures, Functions, Views, Triggers, and Indexing for performance optimization.

Module 3: EDA and Feature Engineering

EDA helps in understanding data through summary statistics, visualization, and feature engineering.

Exploratory Data Analysis

- Data cleaning, missing values, duplicates, removing errors
- Outlier detection, z-test, p-test, feature scaling
- Data visualization with Pandas + Matplotlib

Web Scraping

- Using **BeautifulSoup & Selenium**
- Parsing job data from websites

Visualizations

- Univariate, bivariate, and multivariate plots
- Histograms, boxplots, scatter plots, and correlation heatmaps
- Storytelling with data using visual insights

Module 4: Power BI

Power BI is a business intelligence tool for creating interactive dashboards. It allows seamless integration with SQL and Python, enabling effective data visualization and reporting for decision-making.

- **Data Import & Cleaning:** Use Power Query for ETL (extract, transform, load), handling missing values, and preparing data.
- **Data Modeling & Relationships:** Build star schemas, define relationships, and optimize models for reporting.
- **Measures & DAX Formulas:** Create calculated columns, KPIs, and advanced metrics using DAX expressions.
- **Interactive Dashboards:** Design dashboards with slicers, filters, drill-through, and custom visuals.
- **Publishing & Sharing Reports:** Share reports via Power BI Service and Mobile for real-time collaboration.
- **Excel:** Learn data analysis, pivot tables, charts

Module 5: Git/GitHub

Git is a version control system used to track code changes and collaborate on projects. You'll learn branching, merging, and GitHub workflows for team-based data science projects.

- **Git Workflow:** Learn essential commands like clone, add, commit, push, pull, and manage branching/merging for efficient version control.
- **Collaborative Coding with GitHub:** Work on shared repositories, resolve conflicts, use pull requests, and follow best practices for team-based workflows.
- **AWS:** Learn core services such as EC2 (Elastic Compute Cloud), S3 (Simple Storage Service), and IAM (Identity and Access Management).
- **DevOps:** Understand the basics of DevOps, CI/CD pipelines, virtualization, Docker, Jenkins and deployment.

Module 6: Machine Learning

ML focuses on building models that learn from data for prediction and classification. You will cover algorithms like regression, decision trees, clustering, and model evaluation with scikit-learn.

- **Supervised Learning:** Regression, Classification (SVM, Random Forest, etc.)
- **Unsupervised Learning:** Clustering, Dimensionality Reduction
- **Model Evaluation:** Train/Test split, cross-validation, performance metrics, RMSE
- **Basics of NLP & Text Mining:** Tokenization, stopword removal, stemming/lemmatization, and extracting insights from text data
- **Statistics and Mathematics:** Probability, distributions, hypothesis testing, linear algebra, and calculus for ML foundations

Module 7: AI Tools in 2025-26

Modern AI tools accelerate productivity, automate workflows, and enhance creativity across domains. This module focuses on understanding and applying the latest AI tools in 2025.

- **GPT (OpenAI):** GPT is a large language model capable of generating human-like text. It can answer questions, write content, assist with coding, and provide creative ideas. It is widely used for communication, productivity, and automation.
- **Claude (Anthropic):** Claude is an AI assistant built for safe and reliable conversations. It excels at summarization, reasoning, and report generation. Professionals use it for research, writing, and simplifying complex documents.
- **Quadratic AI:** Quadratic is an AI-powered spreadsheet tool. It enhances traditional spreadsheets with natural language queries and automation. Users can analyze data without needing advanced formulas or coding.

- **Julius AI:** Julius is an AI platform for workflow automation. It delivers insights, automates repetitive tasks, and improves efficiency. Businesses use it to optimize processes and save time.
- **Runway ML:** Runway ML is a creative AI tool for generating and editing media. It can create AI-generated images, videos, and visual effects. Artists, designers, and marketers use it for content creation.
- **ElevenLabs:** ElevenLabs is a voice AI platform specializing in text-to-speech. It creates realistic voiceovers and can even clone voices. It is used in podcasts, audiobooks, and presentations.
- **Lovable:** Lovable is an AI coding assistant. It helps developers build, debug, and scale applications faster. It reduces repetitive work by generating code and handling boilerplate tasks.

- **Sarvam AI:** Sarvam AI is an Indian AI startup focused on building large language models (LLMs) for Indic languages, enabling voice agents, translations, and AI-driven solutions tailored for India's linguistic diversity. It is part of the IndiaAI Mission and works on creating sovereign, efficient, and open-source AI models optimized for local needs.

Module 8: Projects

- **Python Projects**
- **SQL Exam (HackerRank challenge)**
- **12 EDA Projects**
- **4 Power BI Projects**
- **Web Scraping + EDA + Python ML Projects**

Career Preparation & Placement Support



Mock Interview



Resume Preparation



Job Preparation

Practice interviews designed to simulate real industry scenarios. These sessions help improve communication, problem-solving, and confidence before facing actual interviews.

Guidance on building a professional resume tailored to Data Science and AI roles. Focus on showcasing technical skills, projects, and achievements effectively.

Comprehensive preparation including aptitude, technical tests, and domain knowledge. Learn strategies for applying to jobs, handling HR rounds, and negotiating offers.



Placement Assistance

Dedicated support for connecting with recruiters, companies, and industry experts. Includes job referrals, interview scheduling, and guidance until final placement.



PD/Grooming Session

Personality Development (PD) and grooming sessions to improve soft skills, body language, and professional etiquette. These sessions enhance overall presentation and workplace readiness.



G-13, 2nd Floor, Sec-3, Noida, UP, 201301, India

Contact us - +91- 9599086977

Website - www.tpointtech.com

Mail us - hr@tpointtech.com