

## **Data Science & Analytics (Excel, Power BI, Tableau, Python, R Language, Machine Learning, GitHub, Deployment)**

### **Program Overview**

This training equips aspiring data professionals with hands-on skills in MS Excel, MS Power BI, Tableau, Python, SQL, R Language and Machine Learning Model to transform, analyze data and visualize data to extract trends and insights. Focused on real-world applications and projects, it prepares you for data science, upskilling, or machine learning deployment in a data-driven world.

### **Modules in Snapshot**

- **Module 01: Introduction to Data Science**
- **Module 02: Data Analysis with Excel**
- **Module 03: Transformation and Data Cleaning Formulas**
- **Module 04: Power BI with Tools**
- **Module 05: Advanced Data Visualization with Tableau**
- **Module 06: Fundamentals of Python Programming**
- **Module 07: Programming for Data Science with Python**
- **Module 08 (a): Foundation of SQL and Databases**
- **Module 08 (b): Statements, Function and Analysis using SQL**
- **Module 09: Data Analysis and Visualization with R**
- **Module 10: Introduction to Machine Learning**
- **Module 11: Executable Machine Learning / ML Model Development**
- **Module 12 (a): Machine Learning and CI/CD Pipeline for deployment**
- **Module 12 (b): Deployment of ML Models (2025 Update)**

## **Training Outline**

### **Module 01: Introduction to Data Science**

- Definition and importance
- Data science workflow
- Applications in various industries

### **Module 02: Data Analysis with Excel**

- Advanced Excel functions and formulas
- Data cleaning and preparation in MS Excel
- PivotTables and Pivot Charts

### **Module 03: Data Visualization with Power BI**

- Overview of Power BI interface
- Connecting to data sources
- Creating and customizing visualizations
- Building interactive dashboards
- Sharing and publishing reports

### **Module 04: Power BI with Tools**

- Power Query advanced applications
- Data modeling with Power Pivot
- DAX for data analysis

### **Module 05: Advanced Data Visualization with Tableau**

- Getting started with Tableau
- Data connections and preparation
- Creating advanced visualizations
- Dashboard design best practices
- Storytelling with data

### **Module 06: Fundamentals of Python Programming**

- Python programming basics (Clarity of What, why and how)
- Input, output concepts
- Variables, Loops Concepts
- Functions, Packages, Modules Concepts

### **Module 07: Programming for Data Science with Python**

- Key libraries (NumPy, pandas, matplotlib, seaborn, markdown)
- Data manipulation and analysis
- End to End Data analysis project

## **Module 08 (a): Foundation of SQL and Databases**

- What is SQL and why is it used?
- Flavors of SQL
- Tables rows and columns
- Concept of ERD (Entity Relationship Diagram)

## **Module 08 (b): Statements, Function and Analysis using SQL**

- Syntax Familiarity of Select Statements and Techniques of Ordering and filtering Results
- Using WHERE clause
- Sum, Count, min, max, Data types, Functions and Calculations
- SQL for Data Analytics (Project based Learning)

## **Module 09: Data Analysis and Visualization with R**

- Introduction to R programming
- Data manipulation with dplyr
- Data visualization with ggplot2
- Statistical analysis and modeling

## **Module 10: Introduction to Machine Learning**

- Definition, scope, and key concepts
- Real-world examples of ML applications
- Comparison with traditional programming
- Supervised, unsupervised, and reinforcement learning

## **Module 11: Executable Machine Learning / ML Model Development**

- Importance of reproducibility in ML projects
- Introduction to tools like Jupyter Notebook, Google Colab, or IDEs (e.g., PyCharm)
- Importing datasets using libraries like Pandas
- Cleaning and preprocessing data: Handling missing values, scaling, encoding categorical variables
- Feature selection and engineering techniques
- Train-test split and cross-validation setup

## **Module 12 (a): Machine Learning and CI/CD Pipeline for deployment**

- Continuous Integration: Automating the testing and integration of code
- Continuous Deployment: Automating the deployment process
- Overview of Git for version control:
  - Repositories, commits, branches, and pull requests
  - Setting up a GitHub repository for ML projects
- Collaborating on code and managing updates in ML workflow

## Module 12 (b): Deployment of ML Models (2025 Update)

- On-Premises Deployment: Running the model locally using Flask/Streamlit.
- Serverless platform for ML based application Deployment

### Learning Outcomes

- ✓ Create Impactful Visualizations using advanced data analysis and cleaning using Excel, Power BI, and SQL
- ✓ Gain skills in Python for data manipulation and analysis using popular libraries like Pandas, NumPy, Matplotlib, and Seaborn for data science projects
- ✓ Design and interact with relational databases such as SQL queries for data analysis and decision-making
- ✓ Learn the fundamentals of machine learning, including supervised, unsupervised, and reinforcement learning
- ✓ Deploy machine learning applications using Flask, Streamlit, or serverless platforms.
- ✓ Gain practical experience by completing hands-on projects in data analysis, visualization, and machine learning

### Silent Features

- **Full-Stack Data Science Training:** Covers data wrangling, visualization, SQL queries, Python libraries and R programming
- **Advanced Data Processing:** Includes Power Query, DAX, feature engineering, and data modeling for optimized analytics
- **ML & AI Integration:** Covers supervised, unsupervised learning, and ML pipelines
- **Real-World Applications:** Hands-on projects in data analytics, dashboarding, and ML workflows, ensuring industry-relevant expertise

**Duration** 60 Hours in 3 Months

### Recommended For

Business, Finance, IT & Software Professionals aspiring students & Job seekers seeking to a career as Data Analysts & Scientists

**Difficulty Level** Beginners to Intermediate

**Pre-Requisite** Basic computer literacy, familiarity with Windows operating system



## Trainer Profile

M. Rafay Shaikh's technical expertise includes Data Science, Power BI, PySpark, Python, Photoshop, Computer Vision, Machine Learning, Web Development, and Azure DevOps. He has led projects like a Book Recommender System, an NLP-based medical diary, and Lungs Cancer Detection using CNN. He holds an MS in Software Engineering and a BS in Software Engineering from Sir Syed University.

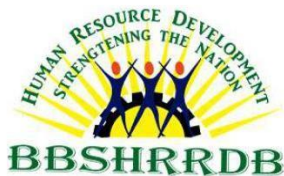
Rafay Shaikh is a skilled Lecturer at Sir Syed University of Engineering and Technology, where he teaches Web Engineering and Introduction to Computing. He also coordinates the departmental CMS, oversees the AI Lab, and advises the IEEE Computational Society at SSUET. Rafay was recognized with 2nd place in the Faculty Training Program by Sindh HEC. Rafay has also held leadership roles in IEEE Karachi Section, organizing numerous events and sessions. He is the Founding Advisor of the IEEE Computational Intelligence Society at SSUET.



## Value Added Services

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**Qureena Kanwal**  
★★★★★

I highly recommend You Excel Institute to anyone looking for a comprehensive and rewarding educational experience. The skills and knowledge I gained have greatly benefited my career, and I feel proud to be an alumnus of this esteemed institute.


7 weeks ago



**Naveed Ahmed**  
★★★★★

YouExcel is a great program with many facilities. There's a convenient lift service here, and they also provide laptop facilities. Overall, our experience has been excellent.


7 weeks ago



**Bilal habib Abbasi**  
★★★★★

YouExcel Institute is a professional training and development organization that offers various courses and programs to enhance skills and knowledge. Based on my knowledge cutoff, YouExcel Institute has generally positive reviews from participants and clients, with many praising the institute's expert trainers, interactive sessions, and practical learning approaches.

7 Weeks ago



**Hasnain Sheikh**  
★★★★★

I recently had the opportunity to participate in a program at youExcel, and it was an outstanding experience. The institute provided numerous opportunities for personal and professional growth. The instructors were knowledgeable and genuinely invested in our success, offering valuable insights and guidance. The curriculum was comprehensive and well-structured, covering a wide range of relevant topics that equipped us with essential skills. Additionally, the support staff were friendly and always available to assist with any concerns. I highly recommend youExcel to anyone looking to advance their career and achieve their goals.

### **Register Now**

<https://youexceltraining.com/Registration-Form/data-science>

### **Contact Details**

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