Misbah Sajjad

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https://github.com/misbahs10/Python-ML-Lab



PROFILE

Aspiring AI & Data Science professional with hands-on experience across the full data lifecycle: data cleaning, exploratory analysis, machine learning, dashboarding, and AI agent automation. Built seven end-to-end projects and a multi-agent AI system using Python, Scikit-Learn, SQL, Power BI, and CrewAI. Strong analytical and problem-solving skills, quick to learn new tools, and eager to contribute to data-driven teams across data analysis, machine learning, and AI roles.

EDUCATION

2024 – 2025

Intermediate (Pre-Engineering), Government Degree College Block-M, North Nazimabad

- Core subjects: Mathematics and Physics, with strong focus on analytical and quantitative problem-solving.
- Developed solid foundations in algebra, calculus, and mechanics, supporting later work in statistics and modeling.
- Built on this background through self-directed learning in Python, SQL, data analysis, and machine learning projects.

SKILLS

Programming & Query Languages	Python • SQL
Machine Learning	Regression • Classification • Feature Engineering • Model Evaluation (Precision/Recall/F1, ROC-AUC) • Predictive Analytics
Data Analysis	Pandas • NumPy • Exploratory Data Analysis (EDA) • Data Cleaning • Statistical Analysis
Visualization & BI	Power BI • Matplotlib • Seaborn • Dashboard & KPI Report Development
AI Automation & Agents	CrewAI (Multi-Agent Systems) • OpenAI API • Tavily API • Pydantic • LangChain-Style Agentic Workflows • n8n Automation • Prompt Engineering
Development Tools	FastAPI • REST APIs • Git • GitHub • VS Code • Jupyter Notebook • Google Colab • UV

PROJECTS

Present

AI Custom Tools Crew — Multi-Agent AI Automation | Python, CrewAI, OpenAI API, Tavily API, Pydantic

- Built a multi-agent, multi-task research and report generation system with 4 collaborating agents (Researcher, Analyst, Writer, Reviewer).
- Developed custom tools including a Tavily-powered research tool, a calculator tool, a text-analysis tool, and a report-generation tool.
- Extended an earlier CrewAI prototype (ai_research) into a production-style automated workflow, reducing manual research-to-report turnaround time.

Present

Customer Churn Prediction | Machine Learning Project

- Built an end-to-end ML pipeline predicting customer churn on a telecom dataset of 7,000+ customer records.
- Performed data cleaning, missing-value handling, EDA, and feature engineering.
- Trained and compared Logistic Regression, Decision Tree, and Random Forest classifiers, prioritizing Recall to minimize missed churn cases (false negatives).
- Evaluated models with confusion matrix, ROC curve, and feature-importance analysis; produced a written performance report.

Present

Marketing Campaign Performance Analysis | Data Science Project

- Built a predictive analytics solution identifying the factors driving marketing campaign success.
- Applied preprocessing, visualization, and ML techniques to score and classify campaigns by predicted performance.
- Delivered a prediction function returning campaign classification with probability scores for business use.

Present

Sales Data Analysis Dashboard | Power BI Project

- Designed an interactive Power BI dashboard covering sales, profit, customer, and regional performance.
- Built KPI reports, monthly trend analysis, category insights, and customer segmentation views.
- Converted raw business data into a visual reporting layer used for decision-making.

Present

House Price Prediction | Machine Learning Project

- Developed a regression-based ML model predicting property prices.
- Applied preprocessing and model evaluation methods to improve prediction accuracy.
- Packaged the trained model into a reusable prediction pipeline.

Present

HR Employee Attrition, Iris Classification, Student Performance & Titanic Survival Prediction | Additional ML Projects

- Built four additional supervised learning projects covering classification and prediction tasks across HR, biological, academic, and survival-analysis datasets, reinforcing end-to-end ML workflow skills.

LANGUAGES

English A1

CERTIFICATIONS

Present **Introduction to Generative AI Studio — Simplilearn**

Present **Machine Learning Using Python — Simplilearn**

Present **Introduction to Prompt Engineering with GitHub Copilot — Simplilearn**

Present **Create Charts and Dashboard Using Google Sheets — Coursera Project Certificate**

ACHIEVEMENTS

Present **Developed seven end-to-end AI/ML projects and one multi-agent AI automation system, from data preparation through deployment-ready pipelines.**

Present **Built and maintain a public GitHub portfolio (Python-ML-Lab) showcasing Data Science, ML, Analytics, and automation work.**

Present **Applied Python-based solutions to real-world datasets across telecom, marketing, real estate, and HR domains.**