

PROFESSIONAL SUMMARY

Results-oriented Machine Learning Engineer and Data Analyst experienced in data preprocessing, model design, and deployment of production-grade ML pipelines. Strong grasp of data analysis, feature engineering, and model optimization using Python, Scikit-learn, TensorFlow, and XGBoost. Skilled in SQL, cloud integration, REST API development, and performance tuning. Proficient in C/C++, Java, Go, and Linux-based systems. Strong in DSA and OOP, with proven ability to build scalable, reliable, and explainable solutions across AI-driven systems.

WORK EXPERIENCE

- **Cognifyz Technologies** Remote
Machine Learning Engineer Intern Feb 2025 – Jul 2025
 - **Model Development:** Designed ML models for restaurant rating prediction using Scikit-learn and Pandas; improved RMSE by 18% with advanced feature engineering and scaling.
 - **Classification Pipeline:** Trained Logistic Regression, Random Forest, and XGBoost classifiers achieving 89% accuracy via cross-validation and parameter optimization.
 - **Automation and Deployment:** Automated data preprocessing and model evaluation pipelines with REST API integration, reducing manual effort by 40% and improving response time by 25%.
 - **Collaboration and Workflow:** Applied Agile and version control using Git, JIRA, and CI/CD pipelines ensuring reproducible and efficient development cycles.

PROJECTS

- **Money Laundering Detection using XGBoost + Metaheuristics (Kaggle Notebook)**
Python, XGBoost, MEALPY, PSO, GWO, NumPy, Pandas, Matplotlib
 - **Model Implementation:** Analyzed 32M transactions from IBM AML dataset and built fraud detection model with SMOTE imbalance handling and categorical encoding.
 - **Optimization Algorithms:** Integrated PSO and GWO to optimize XGBoost hyperparameters improving precision by 20% and recall by 24%.
 - **Explainability and Compliance:** Applied SHAP and LIME to generate feature attribution insights for regulatory compliance teams.
 - **Production Deployment:** Containerized and deployed model via Docker with REST APIs for real-time scoring and monitoring.
- **Concurrent Chat Application (GitHub)**
Go, TCP/IP, Concurrency, Channels, Goroutines, Docker, Distributed Systems
 - **Scalable Architecture:** Built concurrent chat server handling 200+ simultaneous client connections using goroutines, channels, and event-driven message broadcasting.
 - **Latency Optimization:** Reduced end-to-end message latency by 30% through buffered channels, connection pooling, and efficient synchronization primitives.
 - **Fault Tolerance:** Implemented heartbeat checks and automatic reconnection flows achieving 99.9% uptime with graceful handling of dropped connections.
 - **Resource Efficiency:** Optimized CPU/memory consumption enabling stable multi-threaded performance on low-compute servers and edge-hosted environments.

EDUCATION

- **Madhav Institute of Technology & Science (MITS)** Gwalior, MP
B.Tech in Artificial Intelligence and Machine Learning — CGPA: 7.1/10 Nov 2021 – Jun 2025

TECHNICAL SKILLS

- Programming: Python, C/C++, Java, Go, JavaScript/TypeScript, SQL, Bash
ML AI: TensorFlow, PyTorch, Scikit-learn, XGBoost, NumPy, Pandas, OpenCV, MEALPY
Development: REST APIs, Flask, React, gRPC, WebSockets, Redis, Database Design, API Integration
DevOps Tools: Git, Docker, Linux, CI/CD, VSCode, Postman, JIRA, Cloud (AWS/GCP), Virtualization
Concepts: Data Structures, Algorithms, OOP, System Design, OS, DBMS, CN, Data Preprocessing
Additional: Data Visualization, Feature Selection, Model Monitoring, Optimization, Leadership, Teamwork

ACHIEVEMENTS AND CERTIFICATIONS

- **Problem Solving:** Solved 200+ algorithmic problems on LeetCode, GFG, and CodeStudio demonstrating analytical reasoning.
- **Certification:** Completed Blockchain and Its Applications (NPTEL, IIT Kharagpur) with verified certification.
- **Research Publication:** Submitted research paper – Dual-Stage Predictive Model for ICU Risk Stratification, ICSISCET 2025, Springer LNCS (Scopus Indexed)
- **Hackathons:** Ranked Top 10 among 80+ teams at MITS Hackathon 2024 for developing an AI-based decision automation tool.