

Aditya Kumawat

AI/ML Systems Engineer | Backend & Trading Infrastructure

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Objective

AI/ML Systems Engineer building **quantitative trading pipelines** and **production-grade backend systems**, with experience in **large-scale time-series modeling** (570M+ rows) and **real-time execution infrastructure**.

Education

Bachelor of Computer Application (B.C.A)

Tirupati College of Technical Education, Jaipur — 2025

Commerce (Mathematics)

Shree Maheswari Sr. Sec. School, Jaipur

Skills

Programming: Java, Python, C++, JavaScript, SQL

AI & Data Engineering: Pandas, NumPy, Numba, Scikit-learn, XGBoost, **Time-Series Feature Engineering**, **Trade Simulation Modeling**, Backtest Metrics (Sharpe, PF, DD)

Backend & Architecture: Spring Boot, REST APIs, **JWT Auth**, WebSocket, Distributed Signal Systems

Trading Systems: MQL4/5, Pine Script, Indicator Modeling (EMA, SMA, S/R, Bollinger), Risk Automation

DevOps & Cloud: AWS EC2, AWS RDS, Linux (Arch), Git, GitHub, Bluehost Deployment

Experience

Qubitron Labs — Software Developer (AI Research)

(Sept 2025 – Jan 2026)

- Designed a **multi-layer quantitative data pipeline (Bronze → Diamond architecture)** converting raw OHLC time-series into **model-ready datasets at scale**.
- Engineered **200+ technical indicators** and custom support/resistance logic with rolling normalization and percentage/BPS scaling.
- Processed **~570M rows** of trading data with **parallel optimization** (8–9 hrs → 10 min runtime).
- Implemented Decision Tree rule mining for strategy condition discovery; later transitioned to XGBoost for improved generalization.
- Designed realistic backtest modeling incorporating spread, slippage, and commission.
- Prepared **27GB labeled chart dataset** for visual-model fine-tuning (Qwen 3VL experimentation).

Trade Amplification — Software Developer

(August 2024 — December 2024)

- Built **real-time signal distribution server** (Java + WebSocket + Telegram API).
- Developed MetaTrader execution engine with risk automation.
- Implemented **self-healing server state restoration**.
- Designed subscription and access-control infrastructure.
- Deployed trading services on **AWS infrastructure**.

Projects

Elisa Assistant (2025)

GitHub: github.com/kumawat-aditya/elisa-assistant

- Built a **modular voice-assistant system** integrating Rasa NLP, Whisper.cpp (local STT), Porcupine wake-word detection, and Mozilla TTS.
- Designed a **structured JSON-based intent extraction pipeline** for deterministic action execution.
- Implemented cross-platform compatibility (Linux Arch optimized + Windows support).
- Dockerized components for controlled dependency management and GPU acceleration experimentation.

Stella — E-commerce Backend (2024)

GitHub: github.com/kumawat-aditya/stella

- Designed a layered Spring Boot backend with separation of authentication, business logic, and persistence layers.
- Implemented **JWT-based multi-role authorization** (User/Seller).
- Integrated Razorpay with secure transaction handling and validation logic.
- Structured APIs for scalability and production-readiness.

Certifications

- Java Industrial Program — WorinWell (2024)
- Python Bootcamp — Edureka (Rank 1, 2024)