Aayush Yadav

AI Engineer / Data Scientist / Machine Learning Engineer

Contact

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Education

A C Patil College of Engineering, Navi Mumbai
B.Tech - AI & Data Science (Honors in Cybersecurity); GPA: 8.4 (2021 - 2025)
Key Courses: Deep Learning, Machine Learning, Data Structures, Databases, Cybersecurity

Profile

AI & Data Science professional with hands-on experience in predictive modeling, deep learning, and deploying scalable ML solutions using Python, TensorFlow, and SQL Strong problem-solving ability, experience with Python, TensorFlow, PyTorch, SQL, and predictive modeling.

Experience

Python Backend Developer Intern
NDT Reflection Engineers – Remote
October 2024 – March 2025

- Developed backend services using Python, FastAPI, and Flask.
- Designed RESTful APIs for user authentication, service booking, and report generation.
- Managed PostgreSQL databases with SQLAlchemy ORM.
- Implemented JWT-based authentication for secure access.
- Integrated third-party tools SendGrid (emails) and Razorpay (payments).
- Deployed containerized applications using Docker on Render and Heroku.

Skills

- **Machine Learning & Deep Learning** – Predictive modeling, NLP, Computer Vision, reinforcement learning.
- **Data Engineering & Model Deployment** – FastAPI, SQLite, scalable AI systems.
- **Data Visualization** – Developed dashboards using Plotly, Seaborn, Matplotlib.

Projects

Multi-Modal Inference Engine

- Designed an ML platform integrating real-time speech-to-text transcription (Whisper) and object detection (YOLOv5).
- Accelerated inference using TensorRT and CUDA, achieving up to 50% faster YOLOv5 processing.
- Developed an asynchronous FastAPI backend, reducing API latency by 40%.
- Implemented real-time WebSocket support for audio transcription.
- Enhanced GPU resource utilization with dynamic memory optimization and multi-GPU support.

AI-Powered Trading System with Risk Analytics

- Built deep learning-based market prediction system, improving accuracy by 18%.
- Integrated Sortino Ratio, VaR, Monte Carlo simulations, reducing portfolio risk by 22%.
- Developed real-time data pipelines, improving financial decision-making efficiency by 30%.

E-commerce Analytics & Sales Forecasting System

- Built AI-driven e-commerce analytics system (Python, SQL, Prophet), achieving 92% accuracy.
- Developed Plotly-based dashboards, improving revenue strategy by 15%.
- Optimized multi-threaded data processing, reducing query response time by 40%.

Customer Churn Prediction System with API Deployment

- Engineered churn prediction model (Random Forest, Neural Networks), achieving 0.87 F1-score.
- Implemented SMOTE, boosting recall by 25%.
- Deployed REST API (FastAPI, Uvicorn), enabling predictions in under 100ms.

Hybrid Predictive Maintenance System

- Integrated deep and reinforcement learning, improving failure detection by 30%.
- Used SHAP/LIME for model explainability, increasing interpretability.
- Designed a dashboard, reducing downtime costs by 20%.