Aditya Tanwar

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Aspiring Software Engineer | Backend-Focused | Cloud & Security Enthusiast

Technical Skills

Programming: Python, Java, C++, JavaScript, TypeScript, HTML/CSS
Data Science & Analysis: Machine Learning, Statistical Analysis, Predictive Modeling, NLP, Scikit-learn, Pandas, XGBoost
Frameworks: Flask, Django, Node.js, Express, React
Security: OAuth, JWT, Encryption, Cybersecurity Principles
Cloud & DevOps: Google Cloud, AWS (EC2, S3), IBM Cloud, Docker, Git
Databases: MySQL, MongoDB

Projects

1. ForexWatch - *(https://github.com/Aditanwar/forex-alert-system)*

Technologies: Python, Flask, Alpha Vantage API, Twilio/Telegram API, AWS Lambda

- Created real-time currency monitoring system for 50+ Forex traders, reducing market reaction time by 40% via SMS/Telegram alerts.
- Integrated Alpha Vantage API with 5 requests/min automation; achieved <2s alert delivery through Twilio/Telegram APIs at 99% success rate.
- Optimized error handling and reduced API latency by 30%, improving system reliability.
- Expanded coverage to 100+ currency pairs with real-time monitoring, delivering over 500 automated alerts/day and maintaining 99.5% uptime.

2. SmartSpend - *(https://github.com/Aditanwar/bank-transaction-categorizer)*

Technologies: Python, Pandas, Streamlit, Matplotlib/Plotly

- Developed auto-categorization tool for SMEs handling 10K+ monthly transactions, eliminating 100% manual CSV uploads and reducing bookkeeping time by 30%.
- Built Streamlit dashboard processing 10K+ transactions/month with 5+ interactive charts.
- Reduced manual data entry time by 90% by automating transaction categorization and report generation.
- Integrated secure bank API connections supporting 15+ financial institutions, enabling real-time transaction syncing with 99% data accuracy.

3. Soil Fertility Prediction System - *(https://github.com/Aditanwar/ soil-fertility-prediction)*

Technologies: Python, Scikit-learn, XGBoost, Pandas, Matplotlib, Jupyter Notebooks

- Developed advanced machine learning pipeline for soil fertility classification with 87.5% accuracy.
- Implemented multi-algorithm comparison (Random Forest, SVM, XGBoost) with 200+ hyperparameter combinations and 10-fold cross-validation, boosting accuracy by 15% and reducing validation error by 20%.
- Built production system processing 1M+ records/day with 20+ engineered features, improving prediction accuracy by 18% and reducing inference latency by 40%.
- Integrated real-time sensor data ingestion from 50+ IoT devices, enabling continuous soil quality monitoring with 99% uptime and automated weekly model retraining.

Certification & Achievements

- **Cloud Computing | NPTEL IIT Kharagpur (2023)**
- **GEN AI Using IBM Watsonx | IBM (2024)**
- **IBM Cybersecurity Analyst | IBM (2024)**
- **Introduction to Machine Learning & Deep Learning | NPTEL IIT Guwahati (2024)**
- **Marketing Analytics | NPTEL (2025)**

Education

- **Vellore Institute of Technology, Bhopal** **Oct 2022 – Sep 2026**
  Bachelor of Technology in Computer Science and Engineering CGPA: 7.82/10
- **Delhi Public School, Rajnagar** **Sept 2019 – Jun 2021**
  Higher Secondary Education SCORE: 91.8%