Anurag Tiwari

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EDUCATION

Noida Institute of Engineering and Technology Noida, India

Bachelor of Technology in Computer Science Engineering **June 2022 - July 2026**

SKILLS SUMMARY

- **Languages**: Python, SQL, JAVA, Javascript
- **Frameworks**: Pandas, Numpy, Scikit-Learn, Matplotlib, Flask, FastAPI
- **Tools**: Excel, PowerPoint, MySQL, SQLite
- **Libraries:** pandas, NumPy, Matplotlib, Scikit-learn, PyTorch, TensorFlow
- **Platforms**: PyCharm, Jupyter Notebook, Visual Studio Code, Intellij IDEA, GitHub, Git, Postman, Mongodb Compass
- **Soft Skills**: People Management, Excellent communication

PROJECTS

AI Customer Churn Prediction Platform **July 25- Present**

- Engineered a **full-stack AI system** to predict customer churn for a simulated B2C telecom use case, **leveraging Python, SQL, and machine learning** to enhance customer retention strategies.
- Streamlined ETL pipelines using **Python, Pandas, and PostgreSQL** to integrate multi-source data (customers, transactions, interactions) and extract key features like recency, frequency, monetary, and engagement metrics.
- Processed and trained classification models (**XGBoost, scikit-learn**) achieving over 85% ROC-AUC on test data; incorporated SHAP for model explainability, highlighting top factors driving churn risk.
- Served real-time predictions via Flask API with JSON endpoints, averaging **~300ms latency**, and visualized insights using Streamlit dashboards.
- Created an interactive **Streamlit** dashboard to visualize churn probabilities, apply custom filters (subscription type, churn score range), inspect customer profiles, and export high-risk segments for marketing campaigns.
- Containerized app stack (PostgreSQL, ML API, Streamlit) with Docker for **consistent deployment across 3 cloud environments**, reducing setup time by **~80%**.

AI Assisted Fraud Detection **August 25- Present**

- Learn, and XGBoost, achieving a ROC-AUC score of **0.98** with optimized recall for rare fraud cases.
- **Performed end-to-end data preprocessing** including handling **missing values, outliers, and multicollinearity**, designed features like balance discrepancies, and applied **SMOTE** to balance highly imbalanced fraud classes (0.1% fraud cases).
- **Conducted Exploratory Data Analysis (EDA)** on 100K+ sampled transactions using **Pandas, Matplotlib, and Seaborn**, uncovering fraud patterns across transaction types, time of day, and amount distributions.
- **Implemented multiple ML models (Logistic Regression, Random Forest, XGBoost)** and fine-tuned hyperparameters with GridSearchCV, improving fraud detection **F1-score by 35%** compared to baseline models.
- **Optimized fraud prevention strategies** by interpreting feature importance results, recommending **real-time anomaly detection, MFA adoption, and transaction monitoring systems** that could reduce fraudulent transactions by **>40%**.

AI Medical Image Analysis System **September 24- Present**

- Engineered a Convolutional Neural Network (CNN) model using convolutional neural networks and TensorFlow/Python to detect pneumonia from X-ray images, achieving 89% prediction accuracy in controlled testing environments..
- Utilized TensorFlow and Python to build and train a deep learning model for medical diagnostics.
- Enabled real-time pneumonia diagnosis by deploying AI-powered image analysis system on Vultr Cloud using Flask API, reducing the average diagnosis time by 15 minutes and handling **real-time inferences under 500ms latency**.
- Preprocessed over **2,000 medical images** with augmentation and noise reduction, improving generalization by **12% on validation data**.
- Ranked **35th globally out of 6000+ teams** in the Vultr Cloud Hackathon for innovative application in healthcare AI.

CERTIFICATES

Python for Data Science, AI & Development (IBM) | CERTIFICATE **April 2023**

- Mastered fundamental Python syntax, proficiently utilizing control flow, loops, functions, and data structures.
- Acquired expertise in procedural programming paradigms and associated logical concepts, enhancing capabilities and ML.

Deep Learning for Developers (Infosys) | CERTIFICATE **September 2024**

- Acquired expertise in designing, training, and evaluating deep neural networks for complex data-driven applications.
- Gained practical experience in implementing AI models, with a focus on real-world deployment and optimization.

ReactJS(Infosys) | CERTIFICATE **September 2024**

- Developed proficiency in building responsive, component-based web applications using ReactJS and modern JavaScript.
- Enhanced skills in managing state, routing, and UI performance, aligning with best practices in scalable frontend.