Dev Mulchandani

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https://github.com/DMgaming00

Summary

Data science graduate student with internship experience applying predictive modeling, feature engineering, and machine learning to real-time monitoring and NLP pipelines. Proficient in Python, SQL, and AWS services, including SageMaker and EC2, to develop and deploy robust models. Collaborative communicator keen to deliver interpretable analytics that drive strategic decisions.

Technical Skills

- **Programming**: Python, Java, C++, SQL
- **Machine Learning and AI**: Scikit-learn, PyTorch, TensorFlow, Transformers, NLP, CNNs, Model Evaluation, Feature Engineering, Predictive Modeling, Statistical Techniques
- **GenAI**: OpenAI APIs, LangChain, RAG systems, Prompt Engineering
- **Data & Analytics**: Pandas, NumPy, SHAP, Power BI, Data Visualization, Data Compliance
- **Cloud & MLOps**: AWS (EC2, Lambda, SageMaker, DynamoDB, CloudWatch), Docker, CI/CD (GitHub Actions)
- **Web & APIs**: FastAPI, REST APIs, React, Node.js
- **Tools**: Git/GitHub, Linux, Jupyter, Streamlit

Experience

Centre of Excellence for Information Security, GHRCE — Jul 2024 - Dec 2024

AI/ML Engineer Intern

- Designed and deployed a **Python-based distributed Command & Control system** augmented with ML-driven analytics using statistical techniques to monitor and manage **100+ client nodes** in real time.
- Developed data ingestion and feature extraction pipelines enabling feature engineering to analyze system logs and network signals for ML-assisted anomaly and threat detection.
- Implemented secure, token-based authentication and encrypted communication, ensuring data compliance and reducing unauthorized access risk by **50%** while maintaining data integrity for downstream ML models.
- Deployed monitoring and inference services on **AWS EC2 and CloudWatch**, achieving **99.9% uptime** and improving threat detection latency by **20%**.
- Built automated alerting and logging pipelines to support **scalable, fault-tolerant ML-enabled monitoring**.

Oasis Infobyte — Mar 2024 - Jun 2024

AI/ML Engineer Intern

- Built an **AI-driven customer support automation system** using **BERT embeddings and OpenAI GPT APIs**, reducing manual ticket resolution time by **60%**.
- Trained, evaluated, and tuned **multi-class NLP models** using Scikit-learn and Hugging Face Transformers, applying predictive modeling techniques to achieve **92% classification accuracy** across customer issue categories.
- Designed end-to-end **ML pipelines** for text preprocessing, embedding generation, model inference, and post-processing, ensuring data compliance throughout the pipeline.
- Integrated ML services into a **React + FastAPI dashboard** for real-time ticket triage, sentiment analysis, and auto-generated responses, including interactive data visualizations for monitoring model performance.
- Deployed and versioned models using **AWS SageMaker and Lambda**, implementing CI/CD pipelines to enable reliable experimentation and rapid iteration.

Projects

Healthcare Risk & Utilization Prediction Platform

- Built a **data science pipeline** using **Python and SQL** to analyze healthcare claims and utilization data
- Performed **EDA, feature engineering, and predictive modeling** to estimate member risk and cost drivers
- Developed and validated **machine learning models** with a focus on robustness, interpretability, and governance
- Translated model outputs into **clear, actionable insights** through visualizations and written summaries for business stakeholders

Auto Data Cleaning & Feature Engineering Toolkit

- https://github.com/DMgaming00/Auto-Data-Cleaning-Toolkit
- Developed an **end-to-end ML preprocessing system** that profiles datasets, cleans anomalies, engineers features, and exports ML-ready pipelines.
- Built modular Scikit-learn pipelines for imputation, outlier detection (IQR, Isolation Forest), encoding, and scaling.
- Created an interactive **Streamlit application** for dataset upload, visualization, and pipeline export.
- Improved downstream model accuracy by **3–5%** on benchmark datasets while significantly reducing manual data-cleaning effort.

Predictive Maintenance Using Machine Learning

- Trained classification and regression models on industrial sensor data to predict component failures with **93% accuracy**.
- Implemented real-time anomaly detection dashboards using Streamlit and simulated IoT data streams.
- Applied SHAP for interpretability to identify key predictive signals.

Education

San José State University (SJSU) — May 2027

Master of Science, Computer Software Engineering

- **GPA:** 3.6

G H Raisoni College of Engineering

Bachelor of Engineering, Information Technology

- **GPA:** 3.8

Certifications

- Machine Learning Specialization - Stanford University & DeepLearning.AI
- AWS: Introduction to Generative AI