ANAND J

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Summary

Machine Learning & MLOps engineer with a strong foundation in statistical learning theory, optimization algorithms, and large-scale system design. Experienced in the end-to-end ML lifecycle: from data acquisition and probabilistic modeling to hyperparameter optimization and real-time deployment at scale. Skilled in Python, SQL, and cloud platforms, with a research focus on NLP, large language models, and building production-grade AI solutions.

Education

M.Tech in Artificial Intelligence   Aug 2025 – Present
SRM Institute of Science and Technology   *Chennai,India*

Bachelor of Engineering in Electronics and Communication   Aug 2020 – May 2024
Rajalakshmi Engineering College   *CGPA:8.5/10*

Experience

Gradtwin   Chennai, India
Machine Learning Engineer Intern   *Dec 2024 – Mar 2025*
- Designed and implemented a probabilistic feature selection pipeline using mutual information and variance thresholding, which improved model accuracy by 25%.
- Applied gradient boosting and regularized regression models, performing Bayesian hyperparameter optimization to maximize predictive performance and generalizability.
- Architected and deployed a low-latency API using FastAPI, reducing median inference time by 30% and enhancing user experience in production testing scenarios.
- Conducted comprehensive statistical EDA to identify three key features influencing model accuracy, directly informing product strategy and feature development.

Projects

MLOps Pipeline for Real-Time Network Threat Detection - Link   Jun 2025 – Jul 2025
- Developed an ensemble anomaly detection model (Isolation Forest + One-Class SVM) to identify network threats with high precision.
- Built a fully reproducible ML pipeline using DVC for data versioning and MLflow for experiment tracking and model management.
- Automated the CI/CD pipeline with GitHub Actions and Docker for seamless model training, validation, and deployment.
- Designed an interactive Streamlit dashboard for live monitoring and visualization of network security alerts.

US Visa Approval Prediction System - Link   Dec 2024 – Mar 2025
- Built a continuously monitored ML system using Evidently AI for automated data drift and model performance detection.
- Evaluated and compared logistic regression, decision trees, and various ensemble classifiers to select the optimal predictive model.
- Engineered automated logging and retraining pipelines to ensure the model adapts to new data patterns and maintains high accuracy over time.

Student Performance Prediction Analysis- Link   Dec 2024 – Jan 2025
- Achieved 92% accuracy in predicting student outcomes using a combination of regression and classification models with optimized features.
- Applied advanced regularization techniques (L1 & L2) to prevent model overfitting and improve generalization on unseen data.
- Identified the top five most influential academic and demographic factors by conducting ANOVA and chi-squared statistical tests.

Technical Skills

Languages: Python, Java, SQL
ML Frameworks: Scikit-learn, Hugging Face, PyTorch (basic), XGBoost, Pandas, NumPy, Matplotlib
MLOps & Cloud Tools: DVC, MLflow, Airflow, Evidently AI, Docker, GitHub Actions, DagsHub, FastAPI
Developer Tools: Jupyter Notebook, Google Colab, Visual Studio Code, IntelliJ IDEA
Core Domains: Machine Learning, NLP, Large Language Models (LLMs), Statistical Modeling, MLOps