Pranitha Bojja

Hyderabad, India | Mobile: +91 738-298-1967 | pranitha.reddy0497@gmail.com
GitHub | LinkedIn | Portfolio

SUMMARY

Machine Learning Engineer with a strong software engineering base, experienced in building end-to-end ML workflows from data preparation and feature engineering to model training, tuning, and evaluation. Proficient in Python, SQL, scikit-learn, and TensorFlow, with projects spanning recommendation systems, ad click prediction, and smart grid attack detection. Interested in future AI research focused on reliable machine learning, efficient model training, and deployment-ready systems.

TECHNICAL SKILLS

Languages/DB: Python, SQL, PostgreSQL (Indexing, Query Optimization), Java, C
Backend: Flask, REST APIs, JWT, API Versioning, Request Validation, Error Handling
ML/Data: Pandas, NumPy, scikit-learn, TensorFlow, Feature Engineering, Hyperparameter Tuning, Model Evaluation
DevOps/CI: Docker, Linux, Git, GitHub Actions, CI/CD
Testing/Viz: pytest, Matplotlib, NetworkX

EXPERIENCE

SPI Cloud Systems LLC, USA | Software Engineer **Aug 2025 - Current**

- Designed and built REST APIs in Python (Flask) with clear request/response contracts, error handling, and versioned endpoints.
- Implemented a relational schema (PostgreSQL), optimized SQL queries with indexes, cutting average response time by **35%**.
- Added authentication/authorization (JWT + role checks), centralized logging, and basic rate limiting to harden the service.

PROJECTS

Recommendation Engine | Python, Pandas, scikit-learn, Collaborative Filtering

- Built a collaborative filtering recommendation model in Python to predict user preferences from user-item interaction history.
- Converted click, add to cart, and purchase events into an implicit feedback matrix to generate top N product recommendations.
- Created a simple pipeline for data preparation, model training, and batch scoring to make runs reproducible.
- Improved precision at 10 by 18 percent versus a popularity baseline using offline train test evaluation.

Ad Click Prediction System | Python, Pandas, scikit-learn, Classification

- Built an end-to-end binary classification pipeline to predict ad clicks from user and session features using Python, Pandas, and scikit-learn.
- Performed data cleaning and feature engineering (encoding, scaling, missing-value handling) to improve model input quality.
- Compared Logistic Regression, Naive Bayes, and Decision Tree models using cross-validation and selected the best performer with precision/recall.

Smart Grid Attack Detection | Python, scikit-learn, SVM/KNN, Security Classification

- Trained Perceptron, SVM, and KNN classifiers to label smart grid records as attacked vs secure using scikit-learn.
- Conducted EDA and preprocessing (normalization, class balance checks) to improve training stability and reduce noise.
- Evaluated models using confusion matrix, F1-score, and accuracy, and summarized results in a reproducible report.

Low-Data Breast Cancer Classification | TensorFlow, Deep Learning, Low-Data Training

- Trained Perceptron, SVM, and KNN classifiers to label smart grid records as attacked vs secure using scikit-learn.
- Conducted EDA and preprocessing (normalization, class balance checks) to improve training stability and reduce noise.
- Evaluated models using confusion matrix, F1-score, and accuracy, and summarized results in a reproducible report.

K-Core Decomposition on Random Graphs | Python, NetworkX, Graph Analytics, Matplotlib

- Trained Perceptron, SVM, and KNN classifiers to label smart grid records as attacked vs secure using scikit-learn.
- Conducted EDA and preprocessing (normalization, class balance checks) to improve training stability and reduce noise.
- Evaluated models using confusion matrix, F1-score, and accuracy, and summarized results in a reproducible report.

EDUCATION

Master of Science in Computer Science **2022 - 2024**
University of Texas at Dallas, Texas, USA CGPA: 3.75/4.0

Bachelor of Science in Computer Science **2018 - 2022**
GITAM Deemed University, Vishakhapatnam, Andhra Pradesh, India CGPA: 9.14/10.0