Aryan Singh

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Technical Skills

Languages: Python, C, C++, Go, SQL, Bash, JavaScript, HTML/CSS
Frameworks: React, NextJS, TailwindCSS
Developer Tools: Linux, Git, Docker, Google Colab, Kaggle, Vim, VS Code, PyCharm, IntelliJ
Libraries: pandas, NumPy, Matplotlib, Scikit-learn, Tensorflow
Algorithms: Supervised & Unsupervised Learning, Logistic Regression, Random Forest, XGBoost, KNN, SVM, k-Means, Hyperparameter Optimization
Soft Skills: Software Development, Problem Solving, Critical Thinking, Time Management, Communication, Team Collaboration, Agile

Experience

Machine Learning Intern May 2024 – June 2024
Cognifyz Technologies *Remote*

- Used a restaurant dataset with features such as cuisines, price range, city, and delivery availability to model restaurant quality.
- Built a regression model to predict restaurant ratings using preprocessing (handling nulls, encoding categorical variables), feature scaling, and model evaluation techniques like MSE and R^2 Score.
- Developed a content-based recommendation system based on user input preferences like cuisine and price range.
- Implemented a classification model to categorize restaurants into 6 classes: Poor, Average, Good, Very Good, Excellent, and Not Rated. Improved classification model accuracy to 89% using Logistic Regression and Random Forest.

Research Project

Anti-Money Laundering Classification | *Python, XGBoost, MEALPY*

- Utilized IBM AML-World dataset with features like transaction type, amount, and balance before/after transactions.
- Performed data preprocessing: handled class imbalance, encoded categorical features, and applied normalization.
- Optimized XGBoost hyperparameters (learning rate, max depth) using swarm algorithms (PSO, GWO, ABC, CS) via MEALPY.
- Trained XGBoost to classify transactions as fraudulent or genuine, achieving 91% F1-score, 86% Precision, and 97% Recall.
- Visualized feature correlations and model performance using Seaborn and Matplotlib for actionable insights.

Personal Project

Real-Time Chat Application | *Go, TCP, Concurrency*

- Built a client-server chat application using TCP sockets in Go.
- Implemented concurrent message handling with goroutines and mutex synchronization.
- Developed client-side functionality for nickname registration and message sending.
- Enabled real-time broadcasting of messages to all connected clients.
- Handled dynamic client connections and disconnections with robust error management.

Education

Madhav Institute of Technology & Science Gwalior, MP, India
Bachelors of Technology in Artificial Intelligence and Machine Learning *Nov 2021 – Jun 2025*