

Aryan Singh

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TECHNICAL SKILLS

Languages: Python, C, C++, Go, SQL, JavaScript, HTML/CSS

Frameworks: React, NextJS, TailwindCSS

Developer Tools: Git, Docker, Google Colab, Kaggle, 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.
- Processed 10,000+ transactions, reducing false positives by 15%.
- Visualized feature correlations and model performance using Seaborn and Matplotlib for actionable insights.

PERSONAL PROJECT

Computer Generated Reviews Analyzer | *Python, Scikit-learn, NLP*

- Scraped and compiled review datasets from multiple online sources.
- Cleaned data using text preprocessing: tokenization, stopword removal, lemmatization.
- Developed a binary sentiment classification model (positive/negative) using TF-IDF and classifiers like SVM and Random Forest.
- Achieved 87% accuracy and 85% F1-score; performance improved via hyperparameter tuning.
- Visualized word frequencies, sentiment distributions, and classifier confidence levels.

EDUCATION

Madhav Institute of Technology & Science

Bachelors of Technology in Artificial Intelligence and Machine Learning

Gwalior, MP, India

Nov 2021 – Jun 2025