Rohan Kharche

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SUMMARY

Results-driven Computer Science student with a strong foundation in designing data-centric solutions and building **high-impact predictive systems**. Experienced in developing end-to-end models for classification, forecasting, and optimization tasks, with a focus on real-world applicability, performance tuning, and cross-functional collaboration.

TECHNICAL SKILLS

Languages: Python, C++, Java, SQL

Techniques/Frameworks/Libraries: Pandas, Scikit-learn, Tensorflow, Statistical Analysis, Machine Learning Algorithms, Seaborn, MySQL 8, Jupyter Notebook, Git

PROJECTS

Email Spam Filtering 11/2024
[Python, scikit-learn, Naive Bayes, LinearSVC, TF-IDF Vectorization]
- Built a **TF-IDF + Voting Classifier pipeline** achieving **98% accuracy** on a dataset of **83K+ messages**.
- Designed and optimized an **ensemble model** leveraging complementary strengths of multiple classifiers for robust and reliable predictions.
- Achieved **F1-score of 0.98**, enabling accurate **spam detection** and content moderation in real-world messaging systems.

Calorie Burn Estimation 03/2025
[Python, scikit-learn, XGBoost, LightGBM, CatBoost, Random Forest, Stacking Ensemble]
- Built a **layered prediction model** on **750K+ entries** to accurately estimate calorie expenditure, achieving highly precise results **(R^2 :0.997)** for health and fitness applications.
- Improved model accuracy by **15%** through **hyperparameter tuning** and **feature selection** on physiological and activity data.
- Enabled real-world applications in **fitness tracking**, personalized health recommendations, and smart calorie management systems.

Solar Panel Performance Optimization 06/2025
[Python, scikit-learn, TensorFlow, LightGBM, CatBoost, Random Forest, Stacking Ensemble]
- Developed a predictive model for **solar panel efficiency** using real-world data, achieving **high accuracy (RMSE: 0.1061)** on **20K+ records** through advanced cross-validation.
- Boosted model performance by **25%** by selecting key data features and **fine-tuning model settings**, enabling more accurate solar panel efficiency predictions for proactive maintenance.
- Enabled **predictive maintenance** and reduced energy losses in solar panel systems, enhancing real-world energy efficiency.

EDUCATION

VIT Bhopal University, 2023 – 2027
Bachelors of Technology in Computer Science Engineering Bhopal, India
- Current GPA : 9.41

CERTIFICATIONS

Introduction to Machine Learning 05/2025
NPTEL

Supervised Machine Learning: Regression and Classification 12/2024
DeepLearning.AI

The Bits and Bytes of Computer Networking 11/2024
Coursera

ACHIEVEMENTS

- Solved 250+ and more data structure and algorithms problems on platforms like LeetCode, GFG and Codeforces building a robust foundation for software development tasks.