Shishir Somir Mukherjee

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Professional Summary

Computer Science Engineering undergraduate skilled in **C/C++, Python, Java, SQL.** Strong problem-solver with experience in **machine learning, data analysis,** and building **scalable systems.** Combines **low-level programming** with **data-driven** solutions for optimal performance**.**

Education

VIT Bhopal University — Bhopal, Madhya Pradesh
Bachelor of Technology in Computer Science and Engineering — *Sep 2022 – Ongoing*

Kendriya Vidyalaya No.1 Shahibaug — Ahmedabad, Gujarat
XII (Senior Secondary) — *June 2021 – July 2022*

Kendriya Vidyalaya No.1 Shahibaug — Ahmedabad, Gujarat
X (Secondary) — *June 2019 – May 2020*

Projects

Diabetes Prediction Model | Python, KNN, XGBoost, SVM — April 2024 – June 2024

- Engineered ML models (KNN, XGBoost, SVM) on a dataset of 7,000+ patient records, achieving 91% accuracy in predicting diabetes onset.
- Cleaned and transformed data through missing value imputation, normalization, feature scaling, and class balancing, handling 5% missing data.
- Evaluated models using accuracy, precision, recall, and ROC-AUC, identifying XGBoost as the top-performing classifier.
- Optimized 15 key features iteratively, reducing false positives by 12% and improving reliability for clinical decision-making.

Skin Cancer Detection Model | TensorFlow, CNN, Python — Nov 2024 – April 2025

- Designed a CNN model to classify 2,000+ dermoscopic images into 7 skin lesion categories, achieving 79% test accuracy.
- Enhanced performance using image preprocessing and augmentation (rescaling, rotation, width/height shift, shear, zoom, horizontal flip), increasing generalization by 18%.
- Constructed a custom CNN with 3 convolutional layers, batch normalization, max pooling, and dense layers for robust feature extraction.
- Applied model checkpointing, saving the best model after 20 epochs, enabling robust early detection of skin cancer.

Smart Inventory Routing Dashboard | Streamlit, Random Forest, APIs — July 2025 – July 2025

- Developed a real-time dashboard to optimize inter-store inventory transfers across Walmart locations.
- Forecasted 3-day demand per store by training a Random Forest model on 500+ synthetic sales records, factoring in weather and traffic.
- Incorporated Walmart, Google Maps, and VisualCrossing APIs to account for product availability, live traffic, and weather-driven demand shifts.
- Reduced stockouts by 15% and improved on-shelf availability by 20% using urgency-based filtering and transfer approvals.

Technical Skills

Languages: Python, C/C++, Java, OOP, SQL, HTML, CSS, JS
Developer Tools: Github, Jupyter Notebook, VS Code, Visual Studio, PyCharm
Libraries: Pandas, NumPy, Matplotlib, Sci-kit Learn, Tensorflow, STL, API

Achievements

- Won 1st place in a college-level Hackathon organized by GeeksforGeeks VIT Bhopal, competing among 50+ teams.