Akash Deep Kumar

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Portfolio — GitHub — Live Application

Professional Summary

Computer Science Engineering student with strong fundamentals in machine learning and Python-based application development. Hands-on experience in building, deploying, and explaining real-world data-driven systems with a focus on usability and accessibility.

Technical Skills

Programming Languages: Python, C, C++
Machine Learning: Classification, Model Evaluation, Explainable AI (SHAP)
Libraries and Frameworks: NumPy, Pandas, Scikit-learn, SHAP, Streamlit
Databases: MySQL
Tools and Platforms: Git, GitHub, Streamlit Cloud
Core Concepts: Data Structures, Object-Oriented Programming, Operating Systems, DBMS

Projects

Lymphography Disease Prediction
Python, KNN, Decision Tree, Random Forest, SHAP

- Developed a machine learning-based disease prediction system using lymphography data.
- Trained and evaluated multiple classification models for comparative analysis.
- Applied SHAP explainability to interpret feature importance and improve model transparency.
- Used stratified cross-validation and multiple evaluation metrics to ensure reliable and research-aligned performance analysis.

Daily Sugar Guidance Web Application
Python, Streamlit, GitHub, Streamlit Cloud

- Built and deployed a web application providing daily diet and walking guidance based on blood sugar levels.
- Implemented rule-based logic with safe input validation and emergency handling for extreme values.
- Designed clear and visual outputs to support both literate and low-literacy users.

Publications and Presentations

Explainable AI based Lymphography Disease Prediction
Accepted for presentation at an IEEE-affiliated conference; paper under publication.

Education

Bachelor of Technology in Computer Science and Engineering
University of Engineering and Management, Jaipur 2022 – 2026
CGPA: 7.4

Senior Secondary (Class XII), 2022: 76%

Achievements

- Presented research work at an IEEE-affiliated conference.