Vertika Singh

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Introduction

Motivated Computer Science student with a strong foundation in programming, problem-solving, and leadership. Passionate about software development, AI/ML, and backend. Quick learner with excellent communication skills and eager to contribute.

Education

JSS Academy of Technical Education, Noida, B.Tech in CSE (AI/ML)   Sept 2023 – Oct 2027
- CGPA: 8.1/10.0

Mercy Memorial School, Kanpur, 12th   April 2023
- Percentage: 90%

Projects

Tickr - Heart Disease Prediction (2025)   GitHub
- Developed a web application using Streamlit and Scikit-learn for real-time risk assessment based on patient health parameters.
- Implemented a machine learning pipeline with RandomForestClassifier, including hyperparameter tuning for optimal accuracy.
- Utilized SHAP for model interpretability and visualized performance using confusion matrix and ROC-AUC curves.
- **Tools Used:** Streamlit, Scikit-learn, Pandas, SHAP, Joblib

Customer Churn Prediction (2025)   GitHub
- Developed a customer churn prediction system using XGBoost on the Telco Customer Churn dataset.
- Performed data cleaning, feature engineering, and addressed class imbalance using SMOTE.
- Built and optimized an ML pipeline with hyperparameter tuning via RandomizedSearchCV.
- Leveraged SHAP for model interpretability and evaluated performance using metrics like ROC-AUC and confusion matrix.
- **Tools Used:** Python, XGBoost, Scikit-learn, Pandas, SMOTE, SHAP

ML-Driven Movie Recommendation Engine (2025)   GitHub
- Developed a content-based movie recommendation system using NLP and machine learning on the TMDB 5000 Movie Dataset.
- Engineered features from genres, keywords, cast, and overviews using Pandas and advanced text processing.
- Implemented TF-IDF vectorization and cosine similarity to compute movie similarity scores for recommendations.
- Integrated the TMDB API to fetch and display real-time movie posters for recommended titles.
- **Tools Used:** Python, Pandas, Scikit-learn, NLTK, Pickle, TMDB API

Weebly - Advanced Blog App (Oct 2024)   GitHub
- Developed a full-stack blog API using Node.js, Express.js, and MongoDB with JWT authentication and role-based access control.
- Implemented real-time features using Socket.IO for instant notifications when new blog posts are created.
- Implemented secure authentication system with bcrypt password hashing, JWT tokens, and HTTP-only cookies for enhanced security.
- **Tools Used:** Node.js, Express.js, MongoDB with mongoose ODM

Technologies

Languages: Python, Java, JavaScript, C++, C

Machine Learning: Supervised/Unsupervised Learning, Classification, Regression, Clustering, EDA, Model Evaluation, scikit-learn, Pandas, NumPy

Backend: Node.js, Express.js, REST APIs, Authentication

Cloud & DevOps: Git, GitHub