Sumanth Chatarasupalli

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Education

National Institute of Technology, Patna — CGPA: 8.69
B.Tech in Computer Science Engineering — *2021-2025*

VKDVS Junior College — Percentage: 97.4
State Board of Intermediate Education, Telangana — *2019-2021*

Sri Chaitanya Techno School — CGPA: 10.0
State Board of Secondary Education, Telangana — *2018-2019*

Work Experience

Machine Learning Intern

EI Systems — *May 2024 - June 2024*

- Formulated a **House Price Prediction** model using **Linear Regression**, **Decision Tree**, and **Random Forest** algorithms, achieving a minimum prediction error of **23.2%** with Random Forest, significantly improving accuracy. The model was trained on a dataset of **10,000** housing records, incorporating features like location, square footage, and amenities.
- Analyzed model performance using the **Root Mean Squared Error (RMSE)** metric, providing a quantitative evaluation of model accuracy and effectiveness in predicting house prices:
  - **Linear Regression**: **33.4%** RMSE – provides a baseline for comparison.
  - **Decision Tree**: **36.8%** RMSE – demonstrates overfitting with complex data.
  - **Random Forest**: **23.2%** RMSE – optimized performance, minimizing error through ensemble learning.
- Performed cross-validation and hyperparameter tuning to enhance model generalizability and reduce variance.

Projects

Movie Recommendation System -Project Link | *Python,NLP,Keras*

- Implemented **Cosine Similarity-Based Recommendation System** using **TF-IDF Vectorization** to recommend movies based on plot similarity.
- Developed **Collaborative Filtering Models** such as **SVD**, **KNN (User and Item-Based)**, and **NMF**, achieving an **RMSE of 0.87** and **MAE of 0.68** for user-movie rating predictions.
- Designed and trained a **Neural Network-Based Recommender System** with user and movie **embedding layers**, achieving **83% validation accuracy** and an **RMSE of 0.45**.
- Evaluated models across diverse environments using metrics like **RMSE** and **MAE**, demonstrating the effectiveness of machine learning approaches in personalized recommendations.

KoinX - Project Link | *React, JavaScript, MUI Components, CoinGecko API*

- Design a web application providing real-time cryptocurrency market data using the CoinGecko API.
- Built a dashboard that displays the latest 24-hour data for cryptocurrencies, including prices, market caps, and trading volumes.
- Integrated real-time updates to ensure users always have access to the most current market data.

Recipe-Blog Web-Application - Project Link | *JavaScript, CSS, MongoDB, Node.js, Express.js*

- Designed and implemented a responsive web interface for managing recipes across multiple categories
- Integrated MongoDB for secure data storage, managing over 1,000 recipe records.
- Built search and filter features for recipe categories such as Indian, Chinese, and Italian cuisines.

Skills

- **Programming:** C,C++,Python
- **Web Technologies:** HTML, CSS, JavaScript,NodeJs,ReactJs
- **Developer Tools:** VSCode, GitHub,Postman
- **Course Work:** Operating Systems, DBMS, Computer Networks, OOPS
- **Soft Skills:** TeamWork & Collaboration„Communication,
- **Areas of Interest:**Web Development,Machine Learning,Data Structures & Algorithms
- **Databases:** MySQL,MongoDB

Achievements and Certificates

- Achieved a top 1% ranking in NPTEL's **The Joy of Computing Using Python**, earning a gold medal.
- Served as a **Placement Coordinator** at NIT Patna, actively facilitating recruitment processes.