Phaneendra Babu Gunturu

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Education

Master of Science in Computer Science August 2023 – May 2025
Indiana University Indianapolis *Indianapolis, IN*
- Coursework: Data Structure & Algorithms, Object Oriented Programming, Data Mining, Advanced Databases.

Experience

Mathematics Tutor — Calculus, Algebra & Statistics January 2024 – Present
Indiana University Indianapolis *Indianapolis, IN*
- Delivered comprehensive tutoring sessions to graduate and undergraduate students at the Mathematics Assistance Center (MAC), Indiana University Indianapolis, enhancing mathematical understanding in calculus, linear algebra, statistics, and probability.

Machine Learning Intern October 2021 – December 2021
Verzeo *Bangalore, IN*
- Spearheaded a team project to predict diabetes in women; developed and optimized Random Forest, SVM, and Naive Bayes models. Enhanced model accuracy by 15% and reduced overfitting through cross-validation techniques, leading to more reliable predictions.
- Achieved a 10% improvement in overall model accuracy by performing hyperparameter tuning and optimization.

Projects

Movie Recommendation System
- Created a content-based movie recommendation engine in a team of four, suggesting movies based on user preferences. Utilized TMDB API to fetch movie data from the website.
- Performed sentiment analysis on user reviews as a part of a team to gauge the overall sentiment towards a movie, helping to enhance recommendation accuracy by 10%. Leveraged NLP and TF-IDF vectorizer model for personalized recommendations.
- Constructed a web app using Bootstrap for frontend design and Flask framework for backend functionality.

Pubg Player analysis and Rank Prediction
- Developed machine learning model achieving 0.0488 MAE for predicting player rankings in PUBG matches.
- Engineered 15+ game-specific features including normalized kill ratios, movement patterns, and team dynamics.
- Optimized dataset memory footprint by 65.5%, reducing the size from 983.90 MB to 339.28 MB while maintaining data integrity.
- Implemented Random Forest Regressor with feature importance analysis identifying key performance indicators.
- Applied advanced data cleaning techniques and anomaly detection to eliminate fraudulent gameplay data, improving model reliability.

Diabetes Prediction
- Engineered a machine learning model to predict whether a woman is diagnosed with diabetes or not. Utilized Seaborn for visualizing data distributions of features, including Age, Pregnancy, Insulin, and other features.
- Applied diverse machine learning models, including Decision Trees Classifier and Random Forest classifier. Improved the accuracy of the RandomForestClassifier model from 80% to 91% by performing hyperparameter tuning using GridSearchCV and RandomizedSearchCV techniques.
- Designed and created a web application using HTML, CSS for frontend, and Flask for backend integration.

Technical Skills

Languages: Python, R, C++, Java, MySQL, MongoDB, HTML, CSS
Frameworks: OpenCV, Scikit-learn, TensorFlow, Pandas, Numpy, Matplotlib, Django, Flask, Bootstrap
Advanced Technologies: Machine Learning, Deep Learning, Natural Language Processing, LLMs, Fine Tuning
Tools: AWS, Git, Bash

Achievements

- Attained a global rank of 1770 in TCS CodeVita season 10, TCS.
- Certified as an outstanding intern in Machine Learning, Verzeo.
- Secured a rank of 4696 in Google Kickstart Round G 2022, Google.