Tharunkumar Sivakumar

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EDUCATION

University of California Davis
Computer Engineering
December 2024

PROJECT EXPERIENCE

Website Creation

Winter Quarter 2020

- Created and coded a working website in a group setting by joining a project team in the Google Student Developer club.
- Utilized group working skills, communication skills, coding skills, design skills, and time management skills.
- Utilized HTML and CSS skills in order to facilitate creating the web page.
- Furthered other people's understanding of creating a web page by recording an online video that gave an overview of the website creation process.
- Acquired more knowledge about two commonly used languages for web creation, along with experience working in a team and meeting deadlines.
- Gained more experience in teaching others about written code.

Discord Bot Creation

Spring Quarter 2020

- Designed and coded a discord bot for the Google Developer Student Club, as a member of one of their project teams.
- Created a discord bot with a specific function, one that would replace spaces in a user's text message with emojis after the user types a certain command into the discord text box, and created a server to keep said bot running.
- Utilized group working skills, communication skills, python skills, design skills,time management skills.

Iris Identification Learning Model

March 2023

- Classify Iris flower species (Setosa, Versicolor, Virginica) using petal and sepal measurements with the Iris dataset from the UCI ML Repository.
- Trained and evaluated multiple classification models including Logistic Regression, K-Nearest Neighbors, Decision Trees, Random Forests, and Support Vector Machines.
- Achieved high accuracy with the Random Forest model and developed a Flask web application for real-time predictions.
- Utilized Python, Pandas, Scikit-learn, Seaborn, Matplotlib, Flask.

Stock Price Prediction Model

January 2024

- Developed a robust machine learning model to predict stock prices by analyzing historical stock data from NASDAQ, NYSE, and NYSE MKT.
- Implemented data preprocessing techniques, feature engineering, and Long Short-Term Memory (LSTM) neural networks to accurately forecast future stock prices.
- Demonstrated expertise in time series analysis, data normalization, model training, and performance evaluation.

- Utilized Python, Pandas, NumPy, Scikit-Learn, TensorFlow/Keras, Matplotlib.

Personalized Movie Recommendation Learning Model
   December 2023
- Developed a personalized movie recommendation system utilizing the MovieLens dataset.
- Implemented a collaborative filtering approach using Singular Value Decomposition (SVD) to predict user preferences and recommend movies.
- Achieved a robust predictive capability for movie recommendations and enhanced user experience on streaming platforms.
- Utilized Python, Pandas, NumPy, Surprise Library, Scikit-learn.

Wine Quality Learning Algorithm
   May 2024
- Developed a machine learning model to predict the quality of wines by analyzing certain properties using the Wine Quality dataset.
- Key tasks included data preprocessing, exploratory data analysis, feature selection, model training, and performance evaluation.
- Utilized Python, Pandas, NumPy, Matplotlib, Seaborn, and Scikit-learn.
- Achieved a reliable prediction model with significant accuracy, providing insights into the most influential chemical properties affecting wine quality.

SKILLS

- Java
- C
- C++
- Html/CSS
- Python
- Kotlin
- Verilog
- Assembly
- Machine Learning/Neural Networks