Hirdyansh Mahajan

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Education

Thapar Institute of Engineering and Technology — Patiala, PB

B.E. in Computer Engineering with current CGPA of 9.21/10 — *Aug. 2022 – Present*

***Relevant Coursework**: Computer Programming, Object Oriented Programming, Data Structures, Design and Analysis of Algorithms, Operating System, Database Management System, Artificial Intelligence*

Gurdaspur Public School — Gurdaspur, PB

passed 12th standard with 94.6% — *May 2021*

Projects

Sddx | *vffd* — October 2023 – January 2024

Fgscsdvdsvfbcgbncgngncg

Projects

Stock Prediction | *Python, Flask, Pandas, Prophet* — October 2023 – January 2024

- Implemented a stock prediction website using **Flask** and **TSAI model**s to forecast stock prices accurately.
- Engineered an interactive web interface using Flask to enable users to input stock symbols, select prediction horizons, and visualize forecasted stock price.
- Integrated data scraping techniques to fetch historical stock market data from various financial APIs like **yFinanace**, ensuring a consistent and reliable data source for analysis.
- Achieved an **accuracy of 90%** with a maximum threshold of 1.0.

Sign Language Interpretation | *Python, OpenCV, NumPy* — July 2023 – August 2023

- Developed a real-time Computer Vision system to recognize and interpret sign language using **OpenCV** and **NumPY**.
- Utilized **contour detection** and **convex hull algorithms** to extract hand regions from video frames, enablingprecise gesture recognition and classification.
- Conducted extensive testing and validation using diverse sign language datasets, achieving an **overall accuracyover 94%** for gesture recognition and an average frame processing rate of **30 frames per second**.

Centrality Analysis | *C++* — September 2023 – October 2023

- Designed a centrality analysis tool in **C++** to analyze the structural importance of nodes in complex networks.
- Achieving an average computation time of 1 second for networks with up to 3,000 nodes.
- Implemented **Graph Theory** concepts and utilized graph data structures and algorithms to represent network topology and efficiently compute centrality metrics.
- **Refined** and **developed** my own graph library for specialized operations.

Technical Skills

Languages: C/C++, Python, SQL
Developer Tools: Git, VS Code, Anaconda, MySQLWorkbench, Docker
Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, Flask, OpenCV, Spacy, NLTK, GenSim

Acheivements

Awarded with **Merit-3** scholarship for Academic performance.