Rohit Rangan

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Education

University of Massachusetts at Amherst Aug 2019 - May 2023
Bachelor of Science in Computer Science - GPA: 3.7

Relevant Coursework : Software Design, Databases, Data Structures and Algorithms, Artificial Intelligence, Search Engines, Operating Systems

Work Experience

Kaaenaat Bangalore, India
Software Engineering intern March 2018 - June 2018

- Computer Vision: Used python and OpenCV's Haar cascades to implement a face detection module tailored to counting the number of people using public transport.
- Project Contribution: Created an interface to interact with the module, and integrated it as a feature to their Driver Assistance System. It proved to increase safety for over 1000 users.
- Testing and documentation: Implemented a comprehensive test suite using techniques like unit testing, integration testing, and performance testing. Documented the interface and functionality of the face detection feature for future development.
- Presentation: Created a responsive web page with the help of HTML/CSS, JavaScript, and visualization libraries(epoch graphing) to present my contributions to the project.

Projects

Netflix Clone *(ReactJS, HTML/CSS, Firebase, IMDB API)*

- Created a ReactJS web app that imitates the user interface of Netflix using ReactJS functionality like Components, States, and Hooks.
- Designed the movie posters and categories with CSS flexbox and used TMDB and React-YouTube APIs to find relevant movies and display their trailers when clicking on the movie poster.
- The web app is hosted on Google Firebase and provides a responsive interface using media queries to solve presentation issues on smaller screens.

PageRanker *(Python, Wikilarge dataset)*

- Implemented a PageRank algorithm which is used in modern search engines.
- The algorithm analyzes the links on web pages from the Wikilarge corpus and extracts the in-link counts for each page.
- Using the in-link counts, it generates a list of the top k ranked pages and they're respective PageRank scores.
- Provided features to customize the random jump component(lambda) and convergence bound(tau).

Driver Distraction *(Python, computer vision libraries - OpenCV)*

- Led a Hackathon team at HackUmass, we created an interactive computer vision application to detect driver drowsiness and distraction.
- Used Haar Cascades to identify different facial features and detect if the user's eyes are closed for a prolonged period.
- Delegated responsibilities and fostered communication between team members, leading to seamless integration and production of our application.

Technical Skills

Programming Languages:	Java, Python, JavaScript, React.js, Node.js, HTML, CSS, C++
Databases:	PostgreSQL, MySQL, Firebase, MongoDB
Development:	Git, GitHub, Linux, Bash scripting, unit testing

Involvement

Serving as a Course Assistant for Introduction to Operating Systems, I debug and grade students' projects and provide feedback to further students' skills.

Involved member of UMass ACM, Google Developers Student Club, and UMass Competitive Programming club.