SIMANT SINGH

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Education

University of New Orleans   **Aug. 2022 – May 2025**
Bachelor of Science in Computer Science   *New Orleans, LA*
GPA: 4.00, Vice Lead of Google Developers Student Club
Honors Student and President's List

Experience

Research Assistant   **Jan 2023 – Present**
University of New Orleans   *New Orleans, LA*
- Implemented advanced algorithms, related to sensor fusion, Kalman Filter, and Odometry resulting in a 15% improvement in the accuracy of a Parrot Bebop2 Drone Controller.
- Evaluated a State Estimator Program through rigorous unit-testing of LQR controllers and Particle Filters in ROS, C++, and Python, enhancing system reliability.
- Engineered a safety-integrated Dynamic Window Approach, propelling a Roomba robot to achieve an 18% boost in speed and security within complex environments.
- Crafted a dynamic GUI automating the initialization process of all robot components, reducing set-up time by 26%.

Office Assistant   **Aug 2022 – Present**
University of New Orleans Residential Department   *New Orleans, LA*
- Maintained a professional phone etiquette and promptly addressed inquiries, ensuring efficient communication flow and providing accurate information to students, parents, and staff.
- Reorganized student records, implementing a systematic filing system that streamlined data retrieval, resulting in a 20% reduction in response time to student inquiries.

Projects

Restaurant Server Helper (RESPER) | *Vue.js, Node.js, CSS, MongoDB, Express.js*
- Collaborated with a team to develop a full-stack restaurant management web application leveraging Vuetify allowing customers to request services to the server and the restaurant.
- Optimized features for admin users, leading to 32% reduced lead time in restaurant management, enhanced data security, and increased visibility into crucial metrics like hours worked, customer ratings, and feedback.
- Enabled servers to check in and out, providing a comprehensive view of requests from their assigned tables and incorporating QR code functionality for customer and server access.

Playlist Management & Song Recommender Bot | *Python, Jupyter Notebook, MongoDB*
- Created a Discord music bot allowing users to create, update, and synchronize custom playlists to securely store and manage users' playlists, optimizing organization and accessibility of their music.
- Assessed caching mechanisms and introduced Collaborative Filtering resulting in a 40% reduction in song recommendation retrieval times and improved overall responsiveness of the bot.
- Capitalized the Spotify API and acomplished efficient song loading and playback, resulting in an average song loading time of less than 2 seconds, enhancing user experience and minimizing wait times.

Car Dealer Management System | *Java, JUnit*
- Developed a Car Management System using Java, enabling customers to buy and sell cars through assigned agents.
- Implemented Object Oriented Programming principles to systemize a robust log-in and sign-up function for users, ensuring secure access and maintaining user privacy throughout the system.
- Utilized serialization to store customers' car info, sales tracking, improving data storage and retrieval by 30%.

Technical Skills

Languages: Python, Java, C, C++, HTML/CSS, JavaScript, MongoDB, SQL
Libraries/Frameworks: React.js, Vue, Node.js, Express, ROS
Control/Operating Systems and Tools: Git, Windows, Linux, Docker