

Nathan Huang

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nthuang.github.io

Second-year computer science student at California Polytechnic State University Looking for an opportunity to gain hands-on experience to further develop my skills in computer science through an internship or research

EDUCATION

California Polytechnic State University
Bachelor of Science in Computer Science

San Luis Obispo, CA
Sept 2023 - June 2027

Relevant Courses: CSC 349 - Design and Analysis of Algorithms, CPE 357 - Systems Programming, CSC 248 - Discrete Structures, CPE 225 - Introduction to Computer Organization, CSC 203 - Project-Based Object-Oriented Programming and Design, CSC 202 - Data Structures

PROJECTS

Fitforge | *JavaScript, React, Node.js, Express.js, MongoDB, ExerciseDB API*

- Developed a full-stack fitness planner application that enables users to create and manage personalized workouts and exercise splits, resulting in a user-friendly interface that enhances workout organization and tracking.
- Integrated the ExerciseDB API to dynamically populate exercise data, improving user engagement through access to comprehensive exercise information and multimedia resources.
- Utilized React for the frontend and Node.js with MongoDB for the backend, ensuring a responsive design and robust data management that accommodates user preferences and performance tracking.

Spotlist | *JavaScript, React, Spotify API*

- Engineered a seamless user experience by implementing a responsive UI using React, enhancing user engagement significantly.
 - Integrated the Spotify API to enable real-time song search and playlist management, allowing users to efficiently curate their favorite tracks.
 - Optimized state management in the application for improved performance, resulting in noticeable reductions in load times during playlist updates.
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EXPERIENCE

Software Engineer

Sept 2024 - Present

Cal Poly Robotics Club - UROV Team

San Luis Obispo, CA

- Developing algorithms for the UROV (Underwater Remotely Operated Vehicle) in the 2025 MATE ROV Competition, focusing on localization and navigation.
- Integrating SLAM with OctoMap to create and continuously update a 3D occupancy grid, facilitating real-time position tracking of the robot.
- Implementing A* for efficient global pathfinding, leveraging the 3D map from OctoMap to determine optimal routes while avoiding obstacles.
- Applying DWA to enable real-time adjustments to the robot's path, ensuring safe navigation in dynamic underwater environments.

Firmware Engineer

Sept 2024 - Present

Cal Poly Racing - Formula SAE

San Luis Obispo, CA

- Collaborate with the electronics and firmware subteam to learn and implement firmware development practices through hands-on onboarding projects.
 - Currently engaged in aerocan refactoring to improve the efficiency and functionality of the existing firmware for aerodynamics monitoring systems.
 - Work alongside experienced members to gain knowledge in circuit design, firmware coding, and system testing.
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Technical Skills

Languages: Python, Java, JavaScript, HTML, CSS, C, RIS-V Assembly

Frameworks: React, Node.js, Express.js

Developer Tools: Git, Visual Studio Code, IntelliJ, MongoDB, Postman, npm