

Jaedon Spurlock

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EDUCATION

California State University, San Marcos
Bachelor of Science in Software Engineering

Expected Graduation May 2026
GPA: 3.95/4.00

SKILLS

Languages: TypeScript, Python, C++, JSON, Yaml, HTML, CSS, ReactJS, NodeJS, React Native, Expo, ROS2, SQL

Developer Tools: PostgreSQL, MongoDB, Amazon S3, Git, GitHub, Gazebo, RViz2, Docker, Excel, Word, PowerPoint

Operating Systems: Windows, Linux, MacOS

Courses: Data Structures & Algorithms, Embedded Systems, Physics of Motion, Assembly Language & Digital Circuits

EXPERIENCE

Welfie | *Software Engineer Intern*

May 2024 – Present

- Built cross-platform mental health app for high school students by using React Native and Expo
- Improved workflow efficiency by 30% by creating new documentation infrastructure with project build instructions, API references, and architecture diagrams, enabling faster onboarding for new interns
- Enhanced test coverage by 70% by building automated unit tests with Python and Selenium, which are deployed via a CI/CD pipeline through Google Cloud with Docker images

LEADERSHIP

Engineering Project-Based Infrastructure Initiative

Sep 2024 – Present

- Helped secured \$50k+ in funding to create university-wide infrastructure to revitalize engagement and collaboration
- Reformed and scaled multiple student organizations by redefining their structure, projects, and meeting facilitation

Robotics Club

Sep 2024 – Present

- Increased membership by 150% by engaging over 15+ students in fundamentals through hands-on robotics projects
- Setup source code by setting up workspaces, pushing ROS2 packages on GitHub, and using Colcon to build nodes for ROS2
- Improved code quality by facilitating industry practices for version control and code review on GitHub

Google Developer Student Club

May 2024 – Present

- Onboarded 20+ new students by facilitating hands-on technical projects and skills such as ReactJS, TypeScript, and Python
- Reduced manual project testing by automating build processes with GitHub Actions, ensuring reliable builds and features
- Sustained project development through meeting facilitation and handling task allocation with GitHub issues
- Reduced developer ramp-up time by 70% by creating detailed build and contribution guidelines, enabling new students to become productive within their first week

PROJECTS

University Rover

Sep 2024 – Present

- Developed an autonomous navigation system on the Jetson Orin Nano Nvidia board, utilizing ROS2 and Linux distribution architecture, complemented by Gazebo for real-time simulation testing
- Crafted practical motor odometry with a 6-wheel Ackerman Steering system using roboclaw motors and differential pivot
- Improved positional accuracy in complex desert-like environments by implementing rover localization using ZED stereo cameras and LiDAR in pre-mapped areas, significantly reducing drift in dead-reckoned odometry
- Conducted mechanical assembly by utilizing OnShape and CAD tools, ensuring proper construction and design alignment

Remote-controlled Robot Car | github.com/JaedonSpurlock01/robotcar

Apr 2024

- Programmed motion control on a Raspberry Pi by using pigpio C++ library to manage PWM signal processing
- Leveraged SDL and ROS2 for real-time joystick control between controller inputs and motor outputs
- Incorporated dual bridge motor drivers and a DC-DC converter to manage power supply and motor operations

Routify | www.routify.cc

Jan 2024 – Mar 2024

- Developed and deployed city pathfinding visualizer website by using JavaScript, ReactJS, and ThreeJS
- Leveraged the Nominatim API to search accurate city locations from user queries
- Utilized the Overpass API to fetch city data consisting of thousands of roads with real GNSS coordinates
- Reduced third-party API calls by over 60% by creating RESTful API to manage 1,000+ cities with Amazon S3