Jason Chen

Los Angeles, CA — jchen567@usc.edu — +1 (949) 378-4563

EDUCATION

University of Southern California August 2023 - Present
Bachelor of Science in Computer Engineering and Computer Science
GPA: 4.0

EXPERIENCE

USC FormulaSAE Los Angeles, California
Lead Software Embedded Systems August 2023 - Present

- Developed CAN communication to Teensy and Arduino microcontrollers to control a driver interaction display
- Programmed a Teensy Micro-Mod as a vehicle control unit to handle communication between electric motor, battery management system, motor controller, and throttle pedal
- Specialized in configuring and programming a motor control unit to adjust torque and speed of an electric motor
- Configured CAN communication and cell configuration of a battery using a battery management system

Art Of Problem Solving Irvine, California
Teacher Assistant May 2023 – December 2023

- Worked with students aged 10 to 15 on improving there AMC 8, AMC 10/12 scores
- Assisted the teacher in preparing Pre-Calculus and Olympic Math homework and in-class exercises

BTree Coding Academy Irvine, California
Instructor May 2023 – December 2023

- Educated students aged 5-16 in USACO Bronze, Java, Python, C++, Web Development, and Game Development classes
- Consulted personal coding projects created by high school students through personalized feedback and resources for complex tasks

Cider Remote
Open Source Developer December 2021 – December 2022

- Collaborated with software developers in maintaining an Electron Apple Music application
- Utilized Vue.js to add digital features and improvements to the user's auditory experience
- Worked with an audio engineer in developing features for audio spatialization and personalized equalizers
- Developed the framework for the conversion from Apple Music Electron to Cider

Outtire Remote
Software Engineer Intern August 2021 – October 2021

- Re-designed multiple revisions of a landing page experience which increased customer retention rates by 200%
- Optimized the SEO website traffic through SemRush through improving featured snippets and user experience

PERSONAL PROJECTS

Detecting Environmental Objects in ROS

- Utilized K-Means Clustering algorithm to detect the number of objects in an infinite and static ROS environment
- Learned how to utilize ROS and TurtleBot3 to perform simple movements such as moving and rotating on a plane
- Graphed data values from it's distance sensor to determine the number of objects in the environment along with it's locations

Reinforcement Learning on Gymnasium Environments

- Implemented various reinforcement learning algorithms through Sutton and Button's Introduction to Reinforcement Learning textbook on FrozenLake and MountainCar
- Learned how to utilize OpenAI Gym and NumPy to implement different variations of reinforcement learning algorithms like value iteration and Monte-Carlo Methods

VOLUNTEERING

Team 7447 Robotics September 2022 - PRESENT
Lead Mentor

- Guided students in learning how to utilize Java and the WPI library to create and execute commands onto a robot
- Instructed the programming team in applying Trapezoid Proportional-Integral-Derivative algorithms to move a one jointed robot arm to any position
- Implemented PathPlanner library that allowed for a robot to move to any point of location within an environment
- Perfected the SwerveDrive Kinematics on the robot to allow for higher speeds on the field along with high movement accuracy

SKILLS

- **Hardware:** Soldering, Arduino, STM8/32, Teensy
- **Programming:** Python, C++/C, Java, Javascript, Kotlin, Swift, ROS, NumPy, Construct