Kyle Hu

San Diego, CA · kylehu2000@gmail.com · (925) 303-7083 · in kshu082 · falafel72

EDUCATION

University of California, San Diego   San Diego, CA
MS Intelligent Systems, Robotics and Control *GPA: 3.58*   Sep 2022 - Jun 2024

University of California, San Diego   San Diego, CA
BS Computer Engineering *GPA: 3.77*   Sep 2018 - Jun 2022

SKILLS

Programming Languages:	C/C++, Python, Java, MATLAB, JavaScript, SystemVerilog, Haskell, Rust
Libraries/Tools:	Git, Bash, Linux, STM32CubeIDE, OpenCV, AWS, ROS, Spring, Docker, Node.js, React
Spoken Languages:	English, Cantonese, Mandarin

ENGINEERING EXPERIENCE

Engineers for Exploration   San Diego, CA
Research Assistant, Project Co-lead   February 2022 - Present
- Developed a novel underwater laser rangefinder for citizen scientists to gather fish length data
- Worked with collaborators to determine sufficient system requirements for field deployment
- Derived calibration procedure using iterative least squares (Gauss-Newton) to determine pose of laser beam
- Developed software pipeline in **Python** to automate calibration and length calculation
- Submitted systems paper for publication to MobiCom 2024

MaXentric Techologies   San Diego, CA
Engineering Intern   June 2022 - September 2022
- Implemented signal processing algorithms in **C** for a radar-based non-contact vitals monitor
- Coordinated with radar algorithms team to convert theoretical approaches to embedded implementations
- Refactored legacy code to decompose intertwined processes to extensible, and testable components

Amazon   San Diego, CA
Software Development Engineering Intern   June 2021 - September 2021
- Designed and implemented a favorites list widget on the grocery cart page using **AWS** and **Spring**
- Performed cost/benefit analysis to identify appropriate **AWS** services (Lambda w/ Dynamo DB Table)
- Implemented new endpoints on micro-services used in production code to host front-end

PROJECTS

Serial Driver
Firmware   February 2022 - June 2022
- Implemented a serial driver for an STM32G071 chip to facilitate communication over **UART**
- Implemented a ring buffer updated via **UART** interrupt and **DMA**, storing incoming data for later processing
- Driver can handle communication for two ports simultaneously, data between both is handled separately

Infantry Firmware - Triton Robotics
Firmware, Circuit Design   January 2019 - August 2019
- Implemented control firmware on **STM32** chip for a 2-DOF turret mounted on a 4-wheel robot
- Angle control of motors achieved using sensor data from encoders and IMU over **UART** and **I2C** with **PID**
- Designed and soldered power circuit with supercaps in parallel with battery to circumvent power restrictions

COMMUNICATION

ECE 15 (Engineering Computation)
Teaching Assistant   September 2022 - Present
- Guided students through programming fundamentals in **C**, including variables, loops, control flow, and pointers
- Held office hours, provided assistance with assignments, and graded exams for up to 250 students per class

ACM UCSD
Cofounder & Technical Director   May 2019 - June 2021
- Co-founded the largest engineering organization at UCSD, currently at over 800 members
- Hosted technical workshops on a wide variety of topics, including full stack web development (**React**, **Node.js**, **MongoDB**), **ROS**, and **Haskell**