

Aravind Kumaraguru

akumarag@usc.edu • www.linkedin.com/in/aravindkumaraguru • www.github.com/akumaraguru

EDUCATION

University of Southern California (Ph.D.)

August 2018 – May 2022 (Intended)

Los Angeles, CA

Major: Computer Science

GPA: 3.92

Related Coursework: Advanced Computer Vision; Statistical Machine Learning; Multi-Robot Systems

University of California, Berkeley (B.S.)

August 2013 – May 2017

Berkeley, CA

Major: Electrical Engineering and Computer Science

GPA: 3.75

Related Coursework: Operating Systems; Kinematics, Dynamics & Sensing in Robotics; Machine Learning; Control Systems

EXPERIENCE

Software Engineer

July 2017 – August 2018

Cisco Meraki

San Francisco, CA

- Platform developer for Meraki, a networking company that provides cloud-managed IT infrastructure. Worked on feature design and hardware bringup with a full-stack perspective – not only developing on firmware, but also relevant backend and UI elements necessary to make features accessible to non-technical customers, and scalable to thousands of devices.
- Hardware bringup project involved multi-team collaboration, internal and external, to integrate a novel hardware module into existing designs for Unified Threat Management devices.

Engineering Director

August 2016 – May 2017

Pioneers in Engineering

Berkeley, CA

- Pioneers in Engineering is a nonprofit organization that runs an annual high school robotics competition for underprivileged high schools in the Bay Area. PiE hosts over 25 robotics teams, serving 300+ students every year.
- Lead for all robotics kit projects. Tasks included mentoring project managers, overseeing design review cycles, meeting with sponsor organizations, and making critical design choices to optimize our kit for our target audience.
- Previously the project manager for the sensor firmware and communications team

Software Engineering Intern

June 2016 – August 2016

Google

Mountain View, CA

- Worked with the GCam group, under Research & Machine Intelligence, on firmware for a DSP system.
- Debugged led array and sensor circuitry. Developed and implemented DSP algorithms to detect and process high-speed data packets in real time on a Beaglebone Black embedded system. Wrote testing procedures to collect data without human supervision

PUBLICATIONS

- Denniston, C., Kumaraguru, A., & Sukhatme G. S. (In press). Comparison of Path Planning Approaches for Harmful Algal Bloom Monitoring. *In 2019 MTS/IEEE OCEANS Seattle*. IEEE.

PROJECTS

Baxter Plays Pente

September 2015 – December 2015

UC Berkeley Intro to Robotics

Berkeley, CA

- Configure Rethink Robotics Baxter to play the board game Pente (similar to Othello). Written in Python, using ROS. Integrated various features, including the computer vision module, game agent, and closed-loop actuator control. Wrote several debugging tools to assist and automate testing and validation.

Automated Door-Opener

June 2015 – August 2015

Personal Project

Berkeley, CA

- Designed the software for an automated door-opener activated by RFID tags. Tasks include writing the controller's state machine, writing a non-real time PID library, tuning the control loop for the actuator, and implementing communication between the various sensors and controller. Software in Python, running on a BeagleBone Black. See portfolio for demo.