

# Jack Kolb

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 github.com/jackkolb

**B.S. Honors Mechanical Engineering, UC Riverside**  
Focus on Robotics and Controls

2016 – 2020

## Work and Large-Scale Project Experience

### UCR Autonomous Underwater Vehicle (UCR RoboSub)

*Large autonomous submarine project competing annually in the international RoboSub competition*

#### Project Lead

2018 – 2020

*Currently managing the project, worked with university departments and student organizations for budgeting, requests, and support, communicated with company sponsors, ensured deadlines and documentation were fulfilled and standardized, provided technical guidance, training, and leadership to the Mechanical Team, expanded the project into a premier student project at UCR*

#### Mechanical Lead

2017 – 2019

*Led a team of 10+ engineers in repairing the submarine and developing torpedo systems, external battery pods, a WiFi-transmitting buoy, and various electrical housings and aesthetic components; presented at outreach events, managed the project website and social media profiles; ensured no leaks for 50+ reassemblies*

#### Mechanical Team

2016 – 2017

*Designed and constructed components of the submarine's physical structure; created a modular electronics housing and a watertight but accessible central electronics chassis*

### UCR Residential Life

#### Resident Advisor

2018 – 2020

*Currently managing a resident building of 70+ first-years in UCR's largest resident community; engaged in emergency and crisis response, community development, and resident success; Awarded MVP for the 2018-2019 year*

### Undergraduate Research with Sundararajan Venkatadriagaram

2018 – 2020

*Part of a small team developing a system that records accelerometer data from electric motors to predict impending mechanical failure; worked with UCR's research board to use the system on fume hoods across UCR; managed the embedded systems and software creation for the project*

## Small-Scale Project Experience

I have attended 12+ hackathons and done 30+ side projects; see my website!

#### Syncopate

Python, WSGI

 /syncopate

*Distributed project load balancer, allows numerous computers to become nodes and connect with a central server to receive project assignments; projects are run continuously, with mechanisms to immediately redistribute projects from broken nodes using saved state variables*

#### Littlebox


C++, Boost

 /littlebox

*File transfer server/client allowing users to push, pull, and delete files from a central server, includes both server and file passwords, protection from accessing outside the server directory, remote access to servers, and a simple command line interface*

#### Quadmotion

Python, Raspberry Pi, Arduino

 /quadmotion

*Reverse engineered a quadcopter to be controlled by hand gestures from a remote computer*

## Organization Affiliations

### Institute of Electrical and Electronics Engineers

Member, Officer

2016 – 2020

*Officer of UCR's IEEE chapter, project coordinator for RoboSub, showcased IEEE at outreach events, conducted administrative duties for the organization, leading technical workshops (Soldering; Arduino; Raspberry Pi, Internet of Things; 3D Printing) and aiding large-scale projects' administration*

### American Society of Mechanical Engineers

Member

2016 – 2020

*Member of UCR's ASME chapter, project liaison for RoboSub, hosted a quarter-long weekly workshop preparing first-year mechanical engineers for success in their "weed-out" course*

### Association of Computing Machinery

Member

2017 – 2020

*Member of UCR's ACM chapter, led technical workshops at hackathons (Python Web servers; Pitching)*