Jack **Kolb**

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Experience

University of California at Riverside (UCR), Sundararajan Venkatadriagaram Research Group

Undergraduate Research Assistant   2018 - present
- Designed and created a multi-agent system to record and analyze vibrations of a collection of electric motors to identify damages and predict mechanical failure
- Worked with UCR's Office of Technological Partnerships and UCR's Facilities Services to trial the system on campus ventilation and water pump motors.
- Working with UCR to commercialize the system

UC Riverside Autonomous Underwater Vehicles (UCR RoboSub)

Project Lead   2018 - present
Mechanical Lead   2017 - 2018
Mechanical Team   2016 - 2017
- Led 25+ members in the interdisciplinary development of two robot submarines
- Researched and implemented control systems for heading control, depth control, computer vision, object interaction, and 3D sandbox simulation
- Competed in the international RoboSub competition (2017, 2018, 2019)
- Worked with university departments, corporate sponsors, and student organizations for funding, theory, and outreach

UC Riverside, Department of Residential Life

Resident Advisor   2018 - present
- Managed a building of 75 first year undergraduates in their transition to university life
- Engaged in emergency and crisis response, intentioned community development, first contact for personal and community conflicts, safety and security of residents, and supporting social and academic success

IEEE Student Chapter, UC Riverside

Projects Chair   2019 - present
- Conducted technical workshops for students: Robot Operating System, Arduino, CAD/3D Printing, Python, Soldering, Raspberry Pi, Linux, and Webservers
- Advised project leads of three large-scale student projects on management practices

Education

B.S. Honors Mechanical Engineering   2020 (expected)
University of California at Riverside, 3.72 GPA

Skills

    Programming Languages   Python, C/C++, MatLab, Java, C#, Go
    (proficient or higher)

    Technical Tools   OpenCV, Git, Robot Operating System, Gazebo,
    (proficient or higher)   Solidworks, MatLab/Simulink, Google Cloud, Arduino,
                                      Linux (Arch/Debian), HTML/CSS

    World Languages: English (native)   Spanish (intermediate)   German (elementary)

Awards

    UCR Bourns College of Engineering, Best Large-Scale Project   2019
        Awarded for UCR RoboSub's high achievement
    UCR Residential Life, Most Valuable Player   2019
        Awarded by peer-selection
    UCR Dean's Academic Achievement Award   2017
        Awarded for academic success

Certifications

    Certified Solidworks Associate, Mechanical Design   2017
        Certification #C-NAHWPG2UQ5