Liam Robbins

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Education

- **University of California - Riverside** — Riverside, California
  BS + MS program; Computer Engineering; GPA: 3.92 — *September 2017 – June 2021*

Experience

- **NASA Jet Propulsion Laboratory** — Pasadena, CA
  Software Engineer Intern — *June 2020 - Present*
  - Developed a modernized web application using **Django** for use by NASA Project Engineers and Technical Leads.
  - Developed a containerized web application to visualize and monitor data collection using **Airflow**, and **Docker**.
  - Automated the collection and logging of telemetry and critical flight data using a multi-tiered system approach.
  - Increased web application response time by 30% by utilizing smart utilization of **caching**.
  - Refactored legacy relational **database** for increased query efficiency and simplicity. Reduced database size by 50%
- **Zyante Inc.** — Los Gatos, CA
  Software Developer — *March 2020 - Present*
  - Created models to visualize well known programming **data structures and algorithms** to help students digest advanced CS topics.
  - Developed software tools, learning activities, and programming assignments for computer science students using **Python, XML**, and **HTML**.
  - Utilized **Agile** Methodologies (Kanban) and **Unit Testing** methodologies to expedite development of software and ensure code quality.
- **University of California, Riverside** — Riverside, CA
  Undergraduate Robotics Researcher - ARCS Lab — *June 2019 - Jan 2021*
  - Conducting research at the Autonomous Robots and Control Systems (ARCS) Laboratory at UCR with Dr. Konstantinos Karydis, focusing on autonomous UAV navigation and sensing.
  - Integrated **LIDAR** and 3D vision **sensors** to develop a turtlebot prototype that can map its own environment.
  - Contributed odomotry and VICON localization scripts to open source **ROS** packages for multi robot systems.
- **Raytheon Technologies** — Brea, CA
  Electrical/Software Engineer Intern — *June 2019 - May 2020*
  - Designed software for a hall effect programmer on a microcontroller using **C** and **C++**.
  - Prototyped and developed programming circuits to configure and integrate various sensors.

Projects

- **R'Find**
  - Program used to match students with UCR Teacher Assistant and Research positions with undergraduate Engineering students.
  - Fully Featured web application with Front and Back End integration using **React**, **Django**, **PostgreSQL** w/ AWS RDS and automated testing using **Travis CI**.
- **FSAE Digital Dash**
  - Display used in UCR's first Electric Vehicle. This vehicle competed in Nebraska in 2019.
  - Developed using knowledge of Real Time Operating Systems, **CAN Bus**, SPI, and **embedded** design.

Organizations

- **Highlander Racing - User Interface Engineer:** Deployed applications for a Linux system in C++, interfacing a **CAN Bus** with a Raspberry Pi to create a driver User Interface.
- **MESA Program - STEM Mentor:** Led and mentored student Computer Science design competitions for MESA, a volunteer organization that strives to help underrepresented students from educationally disadvantaged backgrounds in STEM.

Programming Skills

- **Languages**: Python, JavaScript, C/C++, SQL, HTML/CSS, Verilog
- **Technologies**: Git, Django, Airflow, SASS, React, Docker, Bootstrap, Node.js, ROS, CAN Bus, AWS