# IVAN LIANG

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## EDUCATION

**University of California, Riverside** *September 2016 - June 2020*
BS in Computer Engineering

## PROJECTS

**Capture the Dot** Spring 2019

· Solo Project done during Embedded Systems Class. Coded in **C**. Created a game on an **ATmega1284** with a **LED Matrix** and a **Joystick**. The goal of the game is to move through the matrix using the joystick and capturing each dot.

**Hacked Lime Scooter: Wireless Starter** Fall 2019

· Solo Project done with a **Raspberry Pi Zero W** and an **Atmega1284**. Coded in **C**(for buzzer) and **Python**(web server). Using a **flask server**, a Lime scooter is able to be powered on and off wirelessly.

**Remote Arm** Spring 2020

· Group Project done remotely during Covid-19 Pandemic, in Embedded Systems Senior Design Class. Coded in **Python**. Designed a Robotic arm with **stepper motors**. The arm is controlled by 2 cameras using object detection. The information is then communicated through an **AWS: EC2** web server. I set up the **flask** web-server on AWS and established communication between the arm and cameras. I also set up the **Travis CI** on my team's **github** in order to automate with **pytest** on our project.

**Portfolio Website** Summer 2020

· Private Project to create my own website. Using **Ruby on Rails** I put together a portfolio of my project experience. Through this small project I learned more about **MVC**, **javascript**, **CSS**, **HTML**, and **Website hosting**.

## TECHNICAL SKILLS

**Programming**

· C, C++, Python, MatLab, Tex, Verilog, VHDL, HTML, SQL

**Tools and Technologies**

· Vagrant, Git, Atmel Studios: Atmega1284, Arduino IDE: Huzzah Feather, Basys Spartan-3E FPGA, Cadence Layout Designer, Cadence Circuit Designer, Xv6, FreeRTOS, Raspberry Pi Zero W, Amazon Web Services (AWS): EC2, Travis CI, Trello

## WORK EXPERIENCE

**Gas Sensor Project, UCR** January 2020 - March 2020
*Undergraduate Research Volunteer*

· Assisting in research to find communication methods for a sensor design built for military divers. I worked with **Arduino IDE** and a Huzzah Feather. Added gas sensors to detect NH3, NO2, and CO2, converting the analog signals to digital (**ADC**).

## RELEVANT COURSES

**Electrical Engineering**

Engineering Circuit Analysis I & II
Electronic Circuits

**Computer Science**

Software Construction
Design of Operating Systems
Design & Architecture of Computing Systems
Discrete Structures
Automata and Formal Languages
Probability and Statistics for Engineering
Intermediate Data Structures & Algorithms
Software Engineering

**Computer Engineering**

Logic Design
Intro to Embedded Systems
Intermediate Embedded & Real-time Systems
Digital & Analog Signals & Systems
Senior Design: Architecture and Embedded Systems
Mechanical Engineering: Statics