

# IVAN LIANG

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## EDUCATION

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**University of California, Riverside**  
BS in Computer Engineering

*June 2016 - June 2020*

## PROJECTS

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### 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. – <https://www.youtube.com/watch?v=MbUO41trtho>

### 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 through a webserver.  
– <https://www.youtube.com/watch?v=j4Fp68tbjnU>

### 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 pytests on our project.

## TECHNICAL SKILLS

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### Programming Languages

- 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

## WORK EXPERIENCE

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### 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 NH<sub>3</sub>, NO<sub>2</sub>, and CO<sub>2</sub>, converting the analog signals to digital (ADC).

## RELEVANT COURSES

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**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