ZACH BELLAY

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EDUCATION

SANTA CLARA UNIVERSITY

Santa Clara, CA | June 2019
B.S. in Computer Science and Engineering
GPA: 3.0/4.0

SKILLS

LANGUAGES

Proficient: C/C++, Python
Familiar: Javascript, HTML/CSS, ARM Assembly

LIBRARIES & TOOLS

Git: Github
Python: OpenCV, Boto3, Flask
AWS: S3, EC2, Lightsail
Arduino: ArduinoJSON, WiFi, PID

HARDWARE

Arduino Uno & Mega, NodeMCU ESP8266, Raspberry Pi 3

DESIGN

2D: Illustrator, Photoshop
3D: Blender, Fusion 360, FreeCAD

COURSEWORK

COMPUTER SCIENCE

Data Science
Computer Networks
Theory of Algorithms
Operating Systems
Programming Languages
Digital IC Design
Intro to Embedded Systems Programming
Advanced Data Structures in C++
Data Structures in C
Advanced Programming in C
Intro to Logic Design

MATH AND SCIENCE

Differential Equations
Intro to Probability and Statistics
Linear Algebra
Calculus I-IV
Physics I-III

LINKS

LinkedIn: /in/zachbellay
GitHub: /zachbellay

EXPERIENCE

SCU ROBOTIC SYSTEMS LAB | Software Engineering Intern

Jan 2017 - Sep 2017 | Santa Clara, CA

- In charge of all hardware and software systems to manage the automation of an indoor vertical farming prototype. Implemented with Arduino, Raspberry Pi, Python, C/C++, HTML/CSS/JS.

ID TECH CAMPS | Robotics and Programming Instructor

June 2016 – Aug 2016 | Seattle, WA

- Introduced students ages 6-12 to the foundations of programming and robotics through LEGO NXT EV3 Robotics kit and the Scratch-like game programming platform Tynker.

PROJECTS

OMNIDIRECTIONAL AUTONOMOUS FISH TANK

June 2017 – Present

- Omnidirectional chassis with mounted fish tank. Fish movements are captured with OpenCV and translated into commands to drive the robot.

FACIAL RECOGNITION DOOR

April 2017

- Raspberry Pi Camera and Python OpenCV combined with basic hardware to model a door lock that unlocks based on facial recognition. Details under facial-recognition-door on GitHub.

ECHO AUTOMATION

June 2016 - Nov 2016

- Integrated the Amazon Echo to control dorm room lights and other custom made ESP8266 modules. Controlled with Home Assistant on Raspberry Pi over MQTT protocol.

INVOLVEMENT

THETA TAU | President & Co-founder

May 2016 – Sep 2018

- Created a co-ed professional engineering fraternity to bring engineering students closer together and to help develop each other professionally. What started as an idea is now a group of 47 high achieving engineering students.

ENGINEERS WITHOUT BORDERS | Officer

Sep 2016 - Dec 2016

- Project lead for SCU EWB's Jordan Project. Developed plans to build Raspberry Pi all-in-one computers for Save the Children to educate K-12 students in the Middle East. Project ended due to lack of funding.

AWARDS

2016 2nd Place Google Games