ZACH BELLAY

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EDUCATION

SANTA CLARA UNIVERSITY

Santa Clara, CA | June 2019
B.S. in Computer Science and Engineering
GPA: 3.1/4.0

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

Applied Machine Learning
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.

WIFI BIKE TRACKER

Sept 2017 - Feb 2018

- Arduino WiFi chip used to track bike location. Utilized Google Geolocation API and reported results to Python Flask server.

FACIAL RECOGNITION DOOR

April 2017

- Raspberry Pi Camera and Python OpenCV used to prototype a door lock that unlocks with facial recognition. Details under facial-recognition-door on GitHub.

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

2018 2nd Place Hack for Humanity
2016 2nd Place Google Games