

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

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