OWEN YANG

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U.S. Citizen

SKILLS

- **Software:** Python, C, C++, MATLAB, GIS, SQL, Git, Linux, and Bash
- **Web Design**: HTML, CSS, and JavaScript
- **Electronics**: KiCAD and Microcontrollers (Arduino, ESP32, ATMEGA32)

WORK EXPERIENCE

Microsoft **June 2020 – Present**

Laboratory Engineer (Contract)

- Analyze CMOS image sensor and Time-of-flight camera performance (quantum efficiency, low/high light, temperature variations, noise, light sensitivity, etc.) by writing custom MATLAB/Python Scripts
- Design automated test environments for CMOS image sensor with industrial equipment (probe station, oscilloscopes, high precision motor controllers, spectral LEDs, etc.) and MATLAB/Python
- Deliver in-depth reports on sensor performance with well-documented procedures for reproducing tests

UCI Advanced Power and Energy Program **February 2018 – June 2020**

Undergraduate Researcher under Professor Scott Samuelsen

- Published and researched air pollution emissions studies using Python, NCL, GIS, and BenMAP to evaluate health impacts for Toyota and policymakers, which showed up to a $116 million per day impact of public health policies
- Demonstrated vehicle recognition for hydrogen station monitoring using machine learning with Python, C++, and YOLO
- Improved Smart Charging Algorithms on Plug-in Electric Vehicles (PEVs) through data analysis scripts with SQL

PROJECTS

ZotBins: A Smart Zero Waste Initiative **June 2017 - Present**

Founder, Mentor, and Open-Source Lead

- Mobilized and developed an award-winning IoT project called ZotBins (https://zotbins.github.io), a real-time waste monitoring smart bin system as a Zero Waste (practice of diverting waste from landfill) Tool for communities
- Design a data collection management system with SQL, Python, C++, and Linux to operate sensors with Raspberry Pi's/ESP32's and prototyped custom PCBs with KiCAD and circuit design skills
- Construct a user-interface and data analysis scripts using Python, HTML, CSS, and JavaScript to provide real-time feedback for facilities management, contributing to ~ $20,000 cost savings for one set of bins over its lifetime
- Lead a team of over 15 software and electrical engineers, and currently managing the project's open source initiatives

ZotPonics: A Smart Hydroponics System **June 2019 – June 2020**

Software, Systems Design, Electronics

- Engineered a smart and automated hydroponics system using Python, the Raspberry Pi, and a IoT network of multiple sensors and actuators
- Created RESTFful API's using Python Flask to communicate with SQL database for front-end applications
- Authored several reports and delivered presentations for the general public and future project members

EDUCATION

University of California Irvine **September 2016 – June 2020**

- *B.S. Degree in Computer Science and Engineering*
- **GPA:** 3.3
- **Awards:** 2017 UCI TIPPERS Hackathon Winner | Dean's Honor List | IET Present Around the World 1st Place Regional
- **Publications:** *An Episodic Assessment of Vehicle Emission Regulations on Saving Lives in California* | *The ZotBins solution to waste management using internet of things: poster abstract*
- **Relevant Coursework:** Embedded Software, Software Engineering Test & Quality Assurance, Python Intermediate Programming, Computer Networks, Intro to Software Engineering, Programming in C/C++, Organization of Digital Computers, Data Structure Implementation & Analysis, Design & Analysis of Algorithms, Principles of Operating Systems