Simon Fong

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Education

University of California San Diego Graduating Dec 2020
M.S. Electrical Engineering: Sensing & Estimation in Robotics
University of California San Diego Graduated Jun 2019
B.S. Electrical Engineering: Machine Learning Depth

Work Experience

Flexport | Software Engineer Intern | Cloud Infrastructure Jun 2020 - Present
Ruby, AWS, Terraform, Bash, Docker

- Migrating usages of a vulnerable service across all scripts, SDKs, and machines used by 200+ engineers.
- Enabled parallelism of the infrastructure pipeline by storing files on S3 decreasing build times by 200%+.

Google | Software Engineer Intern | Google Cloud Platform Sep 2019 - Dec 2019
Python, Javascript, Django, PolymerJS, MySQL

- Replaced deprecated PolymerJS v1 components with v2 components for an internal tool used by 100+ employees.
- Created database tables, backend, and frontend components to collect data to enable auto-scheduling of 900+ events.

Clover Network | Software Engineer Intern | E-Commerce Jun 2019 - Aug 2019
Python, Flask, HTML/CSS/Javascript, ReactJS, Typescript, Java, MySQL, Maven

- Built a full-stack application as a proof-of-concept to test newly built E-Commerce APIs.
- Developed a Python SDK to ease the adoption of the E-Commerce platform for an estimated 1400+ developers.
- Created a component to add Google Pay support, doubling the market of possible users for an upcoming feature.

UCSD ECE Department | Face Recognition Tutor Jan 2018 - Dec 2018
Python, Keras, OpenCV, Flask, Javascript, AWS

- Created a REST API to make image inferencing more reliable and debuggable by the custom-built web client.

Amazon Robotics | Software Development Intern Jun 2018 - Sep 2018
Python, SCons, Docker, AWS Batch, EC2, ECS and S3

- Prototyped a build system to cache computations for large data applications using parallelized computation.

UCSD ECE Department | Research Intern | Team Lead Apr 2017 - Feb 2018
Python, C++, AWS, Dragonboard 410c, Sensors

- Developed a Coursera course teaching how to build Internet of Things applications from sensors to leveraging AWS.

Projects

SD Hacks 2017 | 1st place of 97| uwu.run/go/sd-hacks
Python, Flask, MongoDB, Tensorflow, OpenCV

- Re-trained Inception V3 to recognize items that are put inside the fridge for the goal of reducing food waste.

Autonomous Robotic Arm | uwu.run/go/autonomous-robotic-arm
Python, C, Flask, Arduino, Raspberry Pi, Servos, Camera, Motors

- Created a web application interface to control the robot remotely.
- Developed an algorithm to move the arm to position to grab objects based on object location in the video feed.

Small Autonomous Vehicle | uwu.run/go/small-autonomous-vehicle
Python, C, Flask, Arduino, Raspberry Pi, Servos, Camera, Motors

- Assembled and trained a small vehicle to autonomously navigate a small roadway based only on the video feed.
- Created a feature to auto-stop the vehicle before hitting an obstacle detected by the ultrasonic sensor.

Minefield Navigator | uwu.run/go/minefield-navigator
C, CUDA, NVIDIA GPU

- Created a multi-agent reinforcement learning program to explore a minefield accelerated using CUDA on the GPU.

Skills

Languages: Python, C/C++, Java, Javascript, Ruby, HTML, CSS, Arduino, Bash
Frameworks/Libraries: Flask, Django, jQuery, ReactJS, PolymerJS, Bootstrap 4, Tensorflow, Keras, OpenCV
Tools: SQL, MongoDB, Docker, Amazon Web Services, Git, Nginx, GDB, Valgrind, Maven, Terraform