

Calvin Huang

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EDUCATION

- **University of Michigan** Cincinnati, OH
BSE Computer Science, GPA: 3.850 *September 2018-expected May 2022*
 - Course Highlights: Machine Learning, Computer Vision, Cybersecurity, Data Structures and Algorithms, Databases, Computer Architecture, Web Systems, Linear Algebra

PROFESSIONAL EXPERIENCE

- **Principal Financial Group** Remote
Full-Stack Software Intern *June 2020-August 2020*
 - Spearheaded the transition to a new logging system, added security features to app deployment pipeline via back-end implementation and Ansible automation, and created a server check for conflicting jobs in order ensure reliable metrics on feature changes and deployments.
 - Added deployment API features by implementing cyclical redeployment functionality and reducing deployment downtime with dynamic scheduling.
 - Led intern Code Jam team in brainstorming and development of a full-stack web app hosted in AWS and mentored peers in working with web frameworks and deployment methods within the span four days.
- **Radiological Health Engineering Laboratory** Ann Arbor, MI
Research Assistant, Dr. Kimberlee Kearfott *September 2019-Present*
 - Researched and trained machine learning models to correlate weather and radon data to predict indoor radiation levels for use in early detection of earthquakes.
 - Designed and deployed MySQL database for weather and radiation sensor data to be displayed on a monitoring website. Wrote data processing pipeline for sanitizing and organizing sensor data before storage.
 - Developed iOS and Android apps with a heat map interface for tracking radiation data collected by student-built radiation detectors powered by Raspberry Pi's.
- **UM::Autonomy Project Team** Ann Arbor, MI
Deep Learning Computer Vision Engineer *September 2020-Present*
 - Trained deep neural net to detect obstacle on the water's surface from boat camera footage.
 - Labeled and processed training data using video footage collected from past competitions for use in training the neural net.
- **MRover Project Team** Ann Arbor, MI
Computer Vision Engineer *September 2018-May 2020*
 - Implemented AR tag detection algorithm using OpenCV for a find-and-identify task in the University Rover Challenge.
 - Presented professional design reviews to the team to interface with other sub-teams in order to decide design priorities for implementing obstacle detection.

PERSONAL PROJECTS

- **COVID-19 Heatmap**
Web Application and API for Monitoring Projections of the Spread of COVID-19
 - Developed efficient REST API with Rust to collect and sanitize detailed geographical data at specified time intervals and to communicate current data on-demand to front-end applications.
 - Designed client-side web app using React and Google Maps to visualize global and local data of COVID-19 cases using configurable heat maps.
- **Video Conferencing Web App**
Video Chat Web Application for Virtual Hangouts
 - Incorporated WebRTC video technology into modern video-client web app designed to be easily self-hosted for secure and anonymous communication amongst friends.

- Set up Node.js back-end socketing and custom peer-to-peer server for reliable and secure video calls across different devices.

- **Six-Axis Robotic Arm**

- *Automated Desktop Robotic Arm*

- Constructed automated 6-axis, 3-D printed robotic arm to perform sorting tasks in a small workspace.
 - Created Windows desktop application using .NET Framework to interface with micro-controllers to store data used to automate the robotic arm.

SKILLS

- **Programming Languages**

- *C/C++, MATLAB, Python, Swift, C, Java, Javascript/TypeScript, Rust, Julia, MySQL, MongoDB, DynamoDB*

- **Technologies and Frameworks**

- *React, NodeJS, Flask, AX-RS, Rocket (Rust), Genie(Julia), OpenCV, .NET, WebAssembly, AWS, Google Cloud, Jupyter Notebooks*

HONORS

- **James B. Angell Scholar**

March 2020

- **Tau Beta Pi Michigan Gamma Chapter**

September 2019-Present