

Andrew Zhang

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Education

University of Southern California

Aug 2021 – May 2023

- Master of Science – Computer Science
- 4.0 Cumulative GPA

University of British Columbia

Sep 2016 – Apr 2021

- Bachelor of Applied Science - Engineering Physics, Minor in Honors Mathematics
- Cumulative Average of 90%

Skills

- **Programming Languages:** Python, C/C++, Java, JavaScript, MATLAB, Golang
- **Web Development:** React, Angular, HTML, CSS, REST API, AWS, GCP, Flask, Android, Node.js
- **Machine Learning:** PyTorch, TensorFlow, OpenCV, Deep Learning, Computer Vision, Reinforcement Learning
- **Mechanical and Electrical Engineering:** SolidWorks, ANSYS, FEA, CAD, 3D Printing, CircuitMaker, Micro-controllers, Soldering

Experience

Hugging Face & USC RESL – Research Intern

Jun 2022 – Dec 2022

- Worked in a team to develop Sample-Factory v2.0, an open-source reinforcement learning library that can process 10,000 environment frames per second using parallelism and shared memory
- Benchmarked Sample-Factory against ViZDoom and MuJoCo environments and achieved 5x the FPS compared to standard reinforcement learning libraries

MailChannels – Software Developer Co-op

May 2020 – Aug 2020

- Built responsive web page with React to search and modify customer domain names using REST APIs connected to a Java backend
- Reduced AWS cost of searching domain names for inbound emails by 50% through the use of caching and tracked the changes using DataDog
- Worked in Agile team environment with bi-weekly sprints and participated in daily scrum meetings and code reviews

Xtract AI – Machine Learning Co-op

May 2019 – Dec 2019

- Created deep learning system for detecting colon cancer in videos using CNNs and LSTMs which achieved 80% accuracy on blind test set
- Developed system for detecting concealed weapons that combines data from videos and magnetic signals

Projects

CS 571 – Yelp Web Application

Aug 2022 – Dec 2022

- Built responsive website using Angular and node.js that uses the Yelp API to search for businesses and create a list of reservations: <https://cs571-hw3-nodejs-andrewz.wl.r.appspot.com>
- Designed Android version of the web application that uses the same backend

UBC Solar – Student Design team

Sep 2017 – Apr 2021

- Lead team of 8 engineering students to design, test, and manufacture the steel space-frame chassis of UBC Solar's solar powered race car for 3 years
- Supervised weekly sub-team meetings and design reviews and coordinated design decisions with other sub-team leads

ENPH 479 Capstone Project – UAV Collision Avoidance

Sep 2020 – Apr 2021

- Developed reinforcement learning solution for maneuvering fixed wing UAV to avoid manned aircraft
- Trained and tested solution in simulated environment and achieved 20% increase in avoidance rate compared to standard maneuvers