

experience

Software Engineering Intern

May - Aug 2019

 Google | Sunnyvale, CA

- Developed feature in search engine infrastructure to improve diversity of results using complex data structures.
- Designed and got approved implementation of complex feature in distributed search API.
- Implemented end-to-end experimental data retrieval mechanism able to scale to 50 experiments efficiently.

Data Engineer

September - December 2018

 A Thinking Ape | Vancouver, BC

- Reduced costs of uploads to **Google BigQuery** by 92% by implementing efficient batch file uploads
- Identified and corrected over 7 million rows from a 3.5 TB data warehouse ensuring the integrity of data analysis
- Built a session logger by consuming **Kafka** topics of all user requests increasing session count accuracy by 15%, enabling horizontal scaling and improving fault tolerance

Backend Engineer

January - April 2018

 Bespoke Metrics | Toronto, ON

- Developed and updated a **Python** Flask backend to provide data and improve security for 10 new client facing widgets
- Implemented a mock data library using best **OOP** practices to populate a website with over 1000 data sets
This website was used to demo to 7 high-profile clients
- Revamped **Docker** deployment process to use **Ansible**, reducing deployment times and improving DevOps capability

Software Engineer

May - August 2017

 Thalamic Labs / North | Waterloo, ON

- Developed thread safe software in **C++** to interface with hardware through WebSocket technologies
- Implemented **Python** tools to automate production processes, reducing human error and improving throughput
- Spearheaded transition to web GUIs using **React + Redux** in favor of outmoded desktop tools using **QT + C++**

projects

Neuroevolution Snake AI

 Python | PyGame

- Designed and implemented a **NEAT** (NeuroEvolution of Augmenting Topologies) library to genetically evolve a neural network given any arbitrary fitness function
- Utilized efficient multiprocessing and multithreading to boost training speed significantly
- Developed games to train models, including Snake, where the most fit model scored up to 50 on a 20x20 board

awards

A Thinking Ape Game Jam Winner

2018

Created a synchronous multiplayer game in a company-wide hackathon, which was voted as the best game

Bronze Medalist at Canadian Computing Olympiad

2015

The top 25 scores from the Canadian Computing Competition are invited to participate in the CCO

education

University of Waterloo

2016 - 2021

Honors Software Engineering Co-op

Candidate for Bachelors of Software Engineering