

skills

Python • C++ • C • Javascript • Go • Node.js • TensorFlow • Docker • Scala • Cassandra • Kafka

experience

Bloomberg LP

New York City, New York

Fixed Income Data Platform Engineering Intern

Jan 2019 - Present

- Drafted, proposed, and built a **distributed data pipeline** to populate **2500 fields × 40 million bond updates** per day with sub second latency, orchestrating services on 150+ machines using Kafka and Cassandra layers
- Built clustering based **recommendation engine** for finding comparable bonds on the Terminal
- Wrote Cassandra module for Python w/ C++ extensions for **10x lower latency** compared to official Py3 driver

Hive AI

San Francisco, California

Core ML Infrastructure Intern

May 2018 - Aug 2018

- Designed a **distributed Tensorflow platform**, allowing models to be trained in 1/24th the time across 8 servers
- Led development of C++ real-time **face recognition pipeline** on **16+ concurrent video streams**. Combined **face detection, keypointing and embedding** models with OpenCV processing to reach **95%** recog accuracy
- Implemented optimized **vector kNN** algorithm to search indices with **100k facial embeddings** in under 50ms
- Built thread safe C++ **GPU memory manager** to handle 1000+ parallel RPC calls to TensorFlow model server

dominKnow Learning Systems

Ottawa, Ontario

Software Developer Intern

Jun 2016 - Aug 2017

- Built software simulation platform in **Java**, featuring linear-time **version control** for **Elasticsearch** documents
- Automated **LESS compilation** for authoring platform, also optimizing compilation for a speedup of **500%**

Waterloop Hyperloop Design Team

Waterloo, Ontario

Communications Software Co-Lead

Sept 2017 - March 2018

- Spearheaded **data pipeline design** for three way communication between pod, relay servers and pilot controls
- Wrote multiplexed UDP library in **Go** to increase data throughput by **50x** and reduce latency by **90%**

University of Ottawa Heart Institute

Ottawa, Ontario

Mobile Development Lead

Feb 2016 - Feb 2017

- **Led development** of pager app to prepare med students for residency by simulating surgical incidents
- Presented at the Canadian Conference on Medical Education & American Association of Surgical Education

projects

Order AI

- **Conversational agent** startup backed by restaurants in Toronto, participating in **Y Combinator Startup School**
- Built containerized **Node.js** fulfillment backend coupled with **PostgreSQL** DB instances

education

University of Waterloo

Software Engineering Class of 2022

- 3.9/4.0 cGPA

achievements

2019 Bloomberg Codecon Global Finalist

2017 HackerRank 97th Percentile Contest Rating

2017 USA Computing Olympiad Platinum Division