

Skills

Languages: C++, Python, Go, C, SQL, JavaScript, Bash

Tools and Frameworks: Kafka, Hive, Airflow, Google Test, Neo4j, Bazel, Git

Experience

Hudson River Trading — Software Engineer Intern, Core Team

June - August 2020

- (NDA) Working on low latency automated trading systems using C++ and Python

Facebook AI Research — Software Engineer Intern, AI Habitat

January - March 2020

- Improved the realism of Habitat-Sim, an open-source, high-performance 3D simulator for training embodied AI agents, by designing and implementing configurable lighting using the Phong shading model
- Increased rendering speed of semantic meshes by 200% using a custom mesh splitting algorithm

Citadel Securities — Software Engineer Intern, Systematic Trading Technology

May - August 2019

- Implemented a distributed, fault tolerant, and scalable real-time order reporting system with exactly-once delivery semantics using C++, Apache Kafka, and librdkafka
- Increased single partition throughput by 400% by creating a benchmarking framework to identify bottlenecks, and implementing optimizations such as batching, using reader-writer locks, and reducing memory copies

University of Waterloo — Research Assistant, Advised by Semih Salihoglu

January - April 2019

- Developed a multithreaded graph algorithm to enumerate maximal cliques in a graph using C++
- Implemented dynamic thread load balancing by storing search subtree nodes on a shared thread-safe stack

Wish — Data and Relevance Intern, Search and Recommendation

September - December 2018

- Improved product recommendation quality by finding popular merchandise substitutes using k-nearest neighbour search in product embedding vector space
- Reduced product exploration latency by over 25ms by parallelizing Solr search queries using a Go microservice

Personal Projects

Basic Compiler and Assembler — C++, MIPS assembly

- Built a compiler capable of compiling a subset of C into MIPS assembly

Insincere Questions Classifier — Keras, Pandas, NumPy

- Developed an LSTM based model to identify misleading questions
- Achieved an F1 score of 0.698 by combining multiple source word embeddings to create meta-embeddings

Education

University of Waterloo, Candidate for Bachelor of Computer Science

2016-2021

- 3.99 GPA, Dean's Honours List (all terms)
- Relevant courses: Operating Systems, Computer Networks, Distributed Systems, Algorithms