






Shehan Suresh

4B Software Engineering

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EDUCATION

University of Waterloo

Software Engineering

Artificial Intelligence Option

Sept 2016 – April 2021 (*expected*)

CGPA: 3.97/4 – 92%

SKILLS

Languages

C/C++, Python, Java, Go, SQL, Scala

Frameworks

Hadoop, Spark, ZooKeeper, TensorFlow, pybind11, Spring, Lucene, Selenium

Tools

Kdb+, Kafka, Redis, Presto/Hive, Unix, Ansible, Docker, Git, AWS

AWARDS

Outstanding Intern Award	2020
Citadel, Wish, IBM, Capital One	
Dean's Honours List	2020
1A, 1B, 2A, 2B, 3A, 3B, 4A	
Hack the Valley	2018
MLH 3rd Place out of 76 teams	
Electric City Hacks	2017
Top 5 + Wolfram Alpha Award	
President's Scholarship of Distinction and Nortel Scholarship	2016

WORK EXPERIENCE

Citadel Securities • Software Engineer • Fall 2020

C/C++, pybind11, Python, Kdb+, Ansible, Docker

- Architected **high performance python library** supporting interprocess communication between python and Kdb+
- Optimized subscriber to achieve **10x faster subscriptions** compared to existing solution for large batch sizes
- **Enabled researchers** across the firm to easily iterate on work with a clean and easy to use API

Citadel Securities • Software Engineer • Winter 2020

Python, C++, Kafka, WebSocket

- Added performance metrics monitoring for a **distributed streaming platform** enabling the reduction of latency by **25%** and memory by **10%**
- Designed and built **real-time backend applications** to support a desk executing a **\$100 million trading strategy**

Wish • Data and Relevancy Engineer • Summer 2019

Go, Python, Redis, Bash, Presto/Hive

- Implemented centralized **Redis feature store** which **reduced memory usage** on **52 EC2 instances** by **75%**
- **Reduced** request **latency** by **90%** by caching model weights and multithreading feature computation
- Added **new features** to the product ranking model to **increase GMV** (gross merchandise value) by **3%**

IBM • Watson Data and AI Co-op • Fall 2018

Java, Bash, Apache Lucene, Jenkins

- Spearheaded the development of the **Asset Management Service** for the launch of **Watson Studio Desktop**
- **Architected** file system utility APIs that made up **60%** of the **backend** for the critical service
- Developed a custom **document indexer** in order to perform **complex search queries** using **Apache Lucene**

Capital One • Software Engineer • Winter 2018

Python, Java, TensorFlow, Kafka, AWS, Docker

- Engineered alerts application to reduce account takeover fraud loss by **\$2.5 million**
- Increased fraud loss coverage by **18%** by implementing 20 new asynchronous **aggregate features** using **Java Streams** for the transaction fraud detection model
- Built a **deep learning model** using **TensorFlow** in order to identify new features for the fraud detection model

National Instruments • Software Developer • Spring 2017

JavaScript, Node.js, Selenium

- Independently developed a **WebRTC library** that allows users to stream data from external devices in real time