






# Shehan Suresh

## Software Engineer

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## EDUCATION

### University of Waterloo

Software Engineering  
Sept 2016 – April 2021  
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

Norman Esch Entrepreneurship \$10,000 prize for Capstone Project	2021
Dean's Honours List 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B	2021
Outstanding Intern Award Citadel, Wish, IBM, Capital One	2020
Hack the Valley MLH 3rd Place out of 76 teams	2018
Electric City Hacks Top 5 + Wolfram Alpha Award	2017

## 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