






# Shehan Suresh

## 4A Software Engineering

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## EDUCATION

### University of Waterloo

Software Engineering  
Artificial Intelligence Option  
Sept 2016 – Present  
GPA: 3.97/4  
Cumulative Average: 91.9%

## SKILLS

### Languages

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

### Frameworks

TensorFlow, Keras, Scikit-Learn, Spring, Lucene, Node.js, React, Selenium

### Tools

Redis, Presto/Hive, MongoDB, Kafka, Unix, Docker, Git, Amazon Web Services

## AWARDS

|   |      |
|---|------|
| Dean's Honours List<br>1A, 1B, 2A, 2B, 3A, 3B                 | 2019 |
| Outstanding Intern Award<br>Wish, IBM, Capital One            | 2019 |
| Hack the Valley<br>MLH 3rd Place out of 76 teams              | 2018 |
| Electric City Hacks<br>Top 5 + Wolfram Alpha Award            | 2017 |
| President's Scholarship of Distinction and Nortel Scholarship | 2016 |

## WORK EXPERIENCE

### 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 new trading desk executing a **\$100 million proprietary 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**
- Wrote and maintained **backup scripts** that ensured the **resiliency** of user data in **Watson Knowledge Catalog**

### Capital One • Software Engineer • Winter 2018

*Python, Java, JavaScript, 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
- Strengthened fraud model monitoring by leveraging visualization frameworks to build an **interactive dashboard**
- 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, Python, Django, Selenium*

- Independently developed a **WebRTC library** that allows users to stream data from external devices in real time
- Created a **Node.js server** that implements the OpenScope API protocol using **REST APIs** in order to better examine the data streaming capabilities of the product