

# Sohail Hameed

COMPUTER SCIENCE | SOFTWARE ENGINEER

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## EDUCATION

### University of Toronto

B.Sc. Computer Science

SEP 2016 - NOV 2021

cGPA 3.57/4.00

**Courses:** Data Structures, Algorithm Design and Complexity, Parallel Programming, Operating Systems, Machine Learning, Databases

## SKILLS

### Languages:

**Proficient:** C/C++, Python, JavaScript/TypeScript, Java, SQL/NoSQL

**Prior experience:** HTML/CSS, C#, Ruby

### Technologies/Frameworks:

**Proficient:** Git, Docker, NodeJS, MongoDB, Angular, Bash, Flask, Django

**Prior experience:** React, Rails, Kubernetes, OpenMP, MPI, CUDA

## WORK EXPERIENCE

### Qualcomm | Software Engineer - Video Analytics & Processing Team

SEP 2019 - PRESENT

- Developed a Metadata Manger for the Snapdragon Video Post Processing library in **C/C++** enabling the library to unify how all metadata is handled in video post processing pipeline
- Redesigned the Software Stack** for the Application Estimation Modeling (AEM) Tool and Viewer to make the system more organized and efficient
- Migrated old **CouchDB** data to **MongoDB** and designed new a database schema along with relevant **NoSQL queries**
- Created **Python** functions and classes to effectively manipulate data on the server side using **Pandas & NumPy**
- Implemented **Restful APIs** in **Flask** and an **Angular & plotty.js** based website that allows user to access data from the AEM server side and manipulate that data into graphs and other info graphics

### Citi Group | Technology Summer Analyst - Rate Trader Desktop

JUN 2019 - AUG 2019

- Gathered user statistics and created **JavaScript/PowerShell scripts** to convert config data in the process of migrating Users from **20+ WPF/C#** Trading Grids to their **Electron/Angular** based counter parts.
- Developed the UST Covariance Hedge Ratio Grid in **Angular** to replace its old WPF/C# counter part
- Implemented a **data enricher** for the UST Covariance Hedge Ratio Grid using **Rxjs & TypeScript** to process and handle a **data chain of 20,000+ records** without impeding the grid's or server's functionality
- Created event handlers for the grid-to-grid messaging system to allow for the UST Covariance Hedge Ratio Grid to respond to changes in associated grids

### University of Toronto | Full Stack Web Developer - DCS Projects

MAY 2018 - AUG 2018

- Developed new features for the Programming Classroom Resource System using **Django** and other web technologies
- Updated the main UI using **JavaScript** and **HTML Canvas** to a new graph-based system, which enabled instructors to create exercises and link them via dependency lines
- Implemented **GET & POST APIs** and linked user facing components for the new UI to the Backend

## PROJECTS

### AI-Eat-Green

<https://github.com/Karl-Cui/ai-eat-green>

Developer | Personal

Angular | Ionic | Python | AI | Azure

- A behaviorally informed mobile application that searches for environmentally-friendly recipes and ingredients, provides the "sustainability scores" for recipes based on greenhouse gases emissions, and land and water usage, and tracks the sustainability of one's long-term dietary pattern
- Achieved **Top 25** in the Agorize - AI for Societal Impact Challenge

### Virtual Mystery

<https://github.com/utmandrew/virtual-mystery>

Developer | Academic

Django | PostgreSQL | Angular | Python | Docker

- Developed a Web Application using **Django, Angular and PostgreSQL**, where student from an undergraduate anthropology course complete Assignments in groups, can study virtual artifacts.
- Presented the project at the 2019 **University of Toronto Teaching & Learning Symposium** and **Digital Humanities and Computational Sciences Conference**, discussing the projects usage as an Online Spaces for Collaborative Active Learning in Large Classes