

# Shun Rao

[github.com/shunr](https://github.com/shunr)

[syrao@uwaterloo.ca](mailto:syrao@uwaterloo.ca)

[srao.me](https://srao.me)

## skills

Python • C/C++ • Javascript • Go • Node.js • Tensorflow • OpenCV • Docker • HTML/CSS

## experience

### Hive.AI

San Francisco, California

Software Engineering Intern

May 2018 - Aug 2018

- Designed and built real-time face detection pipeline in C++ and 100k+ embedding facial index in 60ms w/ vectorized kNN, OpenCV + Eigen and lots of stuff to make the description go all the way to the end of the line
- GPU memory manager in Tensorflow model server to handle thousands of concurrent RPC requests
- Automate pipeline to get trained models into Hive serving I'm so bad at making descriptions

### dominKnow Learning Systems

Ottawa, Ontario

Software Developer Intern

Jun 2016 - Aug 2017

- Led full-stack development of HTML5 **software simulation platform** with **Java** and **Elasticsearch** backend
- Built general-use **linear-time JSON** version control system
- Optimized automated **LESS compilation** and increased compilation speeds by **500%**

### Waterloop Hyperloop Design Team

Waterloo, Ontario

Communications Software Co-Lead

Sept 2017 - March 2018

- Spearheaded data pipeline design for three way communication between pod, relay servers and pilot controls
- Designed multiplexed UDP library in **Go** to increase data throughput by **50x** and reduce latency by **90%**

### University of Ottawa Heart Institute

Ottawa, Ontario

Mobile Development Lead

Feb 2016 - Feb 2017

- **Led development** of pager app to prepare med students for residency by simulating surgical incidents
- Presented at the Canadian Conference on Medical Education & American Association of Surgical Education

## projects

### Order AI

[github.com/shunr/order-ai](https://github.com/shunr/order-ai)

- **Conversational agent** platform for takeout backed by restaurants in Waterloo and Toronto
- Built centralized **Node.js** server for speech processing and SIP call routing from each restaurant

### Orpheus

[github.com/shunr/orpheus](https://github.com/shunr/orpheus)

- Machine learning experiment in **Node.js** that trains a **online classification model** to learn individual **music tastes** using interactive feedback to Spotify previews

## education

### University of Waterloo

Software Engineering Class of 2022

- 91.4/100 GPA (Top Decile)
- Dean's Honors List (All Terms)

## achievements

2017 HackerRank 97th Percentile

2017 USA Computing Olympiad Platinum Division

2017 Waterloo President's Scholarship of Distinction

2017 ECOO Programming Contest Eastern Ontario  
Champion