Shun Rao

✉ syrao@uwaterloo.ca 📞 (514) 690-6538 ⌗ github.com/shunr 🔗 devpost.com/shunr

experience

dominKnow Learning Systems
Software Developer Intern

Ottawa, ON
Jun 2016 - Aug 2017

- Drafted and implemented **linear-time JSON diff** version control system
- Led **full-stack** development of a HTML5 **software simulation** platform with Java Spring and Elasticsearch
- Automated a **LESS theming engine** with optimizations to increase compilation speeds by **500%**

Team Waterloop
Communications Software Co-Lead

Waterloo, ON
Sept 2017 - Present

- Spearheading design of new safety critical communications architecture for Goose III, Canada's only Hyperloop Competition 3 pod
- Developing a **multiplexed QUIC pipeline** in **Go** to increase data throughput by up to **50x** and reduce transmission latency by **90%** compared to Goose II

University of Ottawa Heart Institute
Mobile Development Lead

Ottawa, ON
Feb 2016 - Feb 2017

- **Led cross-platform development** of pager app to prepare med students for residency by simulating surgical incidents
- Managed cloud storage and processing of responses through **Firebase**
- Project presented at the **Canadian Conference on Medical Education** and the **American Association of Surgical Education**

projects

Fluxnote
devpost.com/software/fluxnote

Node.js
3rd Place @ ECHacks

- Web app that uses a phone to turn any surface into a graphics tablet using 3-axis magnetic field strength data, for paperless note-taking.

Orpheus
github.com/shunr/orpheus

Node.js, Python
Personal

- Machine learning experiment that trains an online classification model to learn individual music tastes using interactive feedback to Spotify previews

Finden
devpost.com/software/finden

Node.js, React Native
Hack The North

- Massively multiplayer scavenger hunt built using IBM Image Recognition API
- Users compete on a global leaderboard by scanning targets with their phone

muBot
github.com/shunr/mubot

Python
SE101 Final Project

- Raspberry Pi robot that dances to any song from Youtube
- Performs parallelized FFT beat detection on audio while dancing

skills

Fluent
Python, Javascript, Node.js, C++, Git, HTML5, Linux

Working Proficiency
C, Java, Go, jQuery, MongoDB

Getting There
Tensorflow, React, Android

accomplishments

2017	HackerRank 97th Percentile
2017	USA Computing Olympiad Platinum Division
2017	Waterloo President's Scholarship of Distinction
2017	ECOO Programming Contest Eastern Ontario Champion
2016	Canadian Federation of Medical Students Student Initiative Grant
2016	CCC Certificate of Distinction
2015	TechU.me Ottawa AppJam Winner
2015	OSSTF Student Achievement Awards, Provincial Winner

education

University of Waterloo
Candidate for Bachelor of Software Engineering
2017 - 2022

- 3.98 GPA
- Term Dean's Honors List