

Shun Rao



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(514) 690-6538



github.com/shunr



devpost.com/shunr

experience

dominKnow Learning Systems

Ottawa, ON

Software Developer Intern

Jun 2016 - Aug 2017

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

Team Waterloo

Waterloo, ON

Communications Software Co-Lead

Sept 2017 - March 2018

- 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

Ottawa, ON

Mobile Development Lead

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

Order AI

github.com/shunr/order-ai

- Startup prototype **conversational agent** platform for takeout restaurants
- Built centralized server for **speech processing and call routing** from each restaurant, and **hardware interfaces** for existing point-of-sale systems
- Backed by two restaurants in Waterloo and Toronto with testing agreements

Orpheus

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

Fluxnote

devpost.com/software/fluxnote

- **Node.js** app that uses a phone to turn any surface into an accessible **graphics tablet** using 3-axis magnetic field strength data.
- Won **3rd place** overall at **ECHacks 2017**

muBot

github.com/shunr/mubot

- Raspberry Pi robot in **Python** that dances to any song from YouTube
- Implemented **parallelized FFT** for near real-time beat detection on a low-power processor

skills

Fluent

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

Working Proficiency

C, Java, Go, jQuery, MongoDB

Getting There

Elasticsearch, Tensorflow, Android, React

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 (Top Decile)
- Term Dean's Honors List

