

Shun Rao



syrael@uwaterloo.ca



(514) 690-6538



github.com/shunr



devpost.com/shunr

experience

Team Waterloo

Communications Software Co-Lead

Waterloo, ON

Sept 2017 - Present

- Spearheading design of safety critical communications architecture for a faster Hyperloop Competition 3 pod
- Developing a multiplexed UDP pipeline in Go using QUIC protocol to relay pod commands and sensor data between onboard masters, embedded sensors, and flight computer.

dominKnow Learning Systems

Software Developer Intern

Ottawa, ON

Jun 2016 - Aug 2017

- Developed full-stack solutions for an industry leading e-learning platform
- Drafted and wrote efficient article version control system using JSON diff comparison
- Led development of a HTML5 image editor and integrated it into the main authoring product
- Built an automated LESS theming engine and implemented optimizations to increase compilation speeds by 500%

University of Ottawa Heart Institute

Mobile Development Lead

Ottawa, ON

Feb 2016 - Feb 2017

- Led iOS 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

Graphics tablet using raw 3-axis magnetic field strength data from a smartphone to doodle with a rare-earth magnet, creating a paperless note-taking and scribbling system.

Orpheus

github.com/shunr/orpheus

Node.js, Python

Personal

Interactive machine learning experiment that trains an online classification model to learn individual music tastes. Uses feedback to Spotify previews to estimate likelihood of genre and track preference.

Finden

devpost.com/software/finden

Node.js, React Native

Hack The North

Massively multiplayer scavenger hunt platform built using IBM Watson Image Recognition API. Users compete on a global leaderboard by scanning target objects with their phone.

muBot

github.com/shunr/mubot

Python

SE101 Final Project

Raspberry Pi robot that dances to any song. Fetches YouTube audio and performs rFFT beat detection on transcoded audio, triggering nutty LED flashes and servo movements. Supports voice commands through Bing API

education

University of Waterloo

Bachelor of Software Engineering

2017 - 2022

- 3.98 GPA / 92.3%
- Term Dean's Honors List

skills

Fluent

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

Working proficiency

C, Java, Go, jQuery

Getting there

Tensorflow, React, Android

accomplishments

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