Shun Rao

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

experience

Team Waterloop
Waterloo, ON

Communications Software Co-Lead — 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
Ottawa, ON

Software Developer Intern — 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
Ottawa, ON

Mobile Development Lead — 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
Node.js

devpost.com/software/fluxnote — 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
Node.js, Python

github.com/shunr/orpheus — 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
Node.js, React Native

devpost.com/software/finden — 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
Python

github.com/shunr/mubot — 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

Year	Accomplishment
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