


Abhinav Boyed

Software Engineer at the University of Waterloo

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Skills

Languages: Java, C++, JavaScript, C, Python, HTML5, CSS

Technologies: Node.js, React, MySQL, MongoDB, Docker, Git, AdobeXD

Work Experience

Software Engineer Intern - UCash, Toronto, ON

May 2018 - August 2018

- Delivered a bitcoin withdrawal system with **Node.js** and mock request load-balancer with **Docker**
- Developed and tested an internal **RESTful API** (Node.js and Web3JS) to transact UCash on the Stellar Blockchain
- Decreased transaction confirmation time by a factor of 5 to serve ~760k registered users

President - Glenforest STEM, Mississauga, ON

September 2015 - July 2018

- Planned and executed 2 of the largest, student-run STEM conferences in Canada to inspire young innovators
- Led an executive team of 70 members and over 100 volunteers
- Acquired **\$60,000 in sponsorships** from 30 corporate and government organizations
- Team received recognition from Prime Minister Justin Trudeau and several Members of Parliament

Awards and Involvement

Confluence - React, Express.js, Node.js, Socket.io, WebSocket

November 2018 - January 2019

A decentralized approach to evolutionary AI training: **3rd place winner** at Waterloo Engineering Competition

- Trained genetic AI algorithm over a distributed network of computers, reducing training time by 73%
- Implemented an **evolutionary AI in Java** - refactored to **Node.js** to distribute tasks to browser instances
- Developed back-end in **Socket.io** to distribute and reassemble 10 MB of computational data per second
- Designed and developed **data visualization** dashboard in React to show live stats and simulations

Carbon Cap and Trade Blockchain - Node.js, Web3JS, Postman

April 2018 - June 2018

A prototype blockchain solution to combat climate change - presented and delivered project

- Created a **smart contract on Ethereum** to issue collateralized carbon obligations for carbon emitting companies
- Implemented a smart contract and deployed a Node.js server to interface with the ethereum network
- Delivered report for MLG Blockchain as a consultant for a Chinese smart city pilot that implements this concept
- Invited to present and demo to the City of Mississauga and The Knowledge Society (TKS)

Personal Projects

Vaccinaire - C++, Arduino, Raspberry Pi

September 2018 - November 2018

A prototype autonomous drone to deliver vaccines and medical materials to remote places

- Designed and built a prototype of an unpropelled, self-landing device using SolidEdge and a laser cutter
- Developed printed circuit board with Fritzing to interface an Arduino Nano with onboard hardware: servos, gyroscope, magnetometer, and accelerometer
- Developed a highly responsive and lightweight stabilization and controller software (**C++**)

Ethereum Miner - Scratch PC Build, Bash

January 2018 - April 2018

A miner that verifies transactions on the Ethereum network and throttles to optimize for utility costs.

- Built a 6 GPU mining rig with maximum mining hashrate of 219 MH/s
- Wrote Windows scripts to automatically throttle mining rate based on variable power costs from HydroOne

Education

Bachelor of Software Engineering Candidate - University of Waterloo

September 2018 - Present