

Richard Shi | Software Engineer

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Skills

Languages: Java, C/C++, JavaScript, Python, HTML, CSS

Tools: Vim, Git, Eclipse, Xcode, Visual Studio Code

Technologies: Linux, iOS, SQL (Postgres), Redis, Node.js, Backbone.js, Express.js

Experience

Hubdoc

Toronto

Software Engineer

Sept 2017–Dec 2017

- Created and optimized Node microservices to automate financial data aggregation for accountants
- Built a data visualization dashboard with Express, Backbone and PostgreSQL for enabling analytics solutions
- Designed new data ingestion algorithm to improve microservice fetch success rate from 58% to 80%

Rave Media

Waterloo

iOS Software Engineer

Jan 2017–April 2017

- Worked on a consumer-facing iOS app for real-time social video watching and VoIP
- Designed and implemented a novel asynchronous networking layer in Swift, reducing latency by 15%
- Optimized memory management of the app, reducing usage from 200MB to 60MB on average
- Implemented new build system to cut build times and enable Swift frameworks

Blackberry

Ottawa

Firmware Engineer

May 2016–Aug 2016

- Developed Android operating system and driver camera enhancements in C++ and C.
- Wrote a dynamic performance adjuster enabling a 3x video resolution increase at minimal performance loss
- Optimized Android camera drivers for the Blackberry Priv, DTEK50 and DTEK60

Projects

ReactionBot.js

bit.ly/reactbot

Node.js, Ruby, Heroku, Express, PostgreSQL, Slack API

2017

- Created a Slack chatbot that allows users to share images and memes on their channels
- Currently in production actively used by 200+ teams

ESPower

bit.ly/espower

ESP8266 API, Python 3

2017

- Developed Internet-connected power bar exposed through a REST API using C and Micropython on the ESP8266 microcontroller

Cave Story Online

bit.ly/cavstory

C++, SDL, JavaScript, Emscripten

2017

- Made a web port of popular shareware game CaveStory with asm.js and WebAssembly

Path Polo - Hack the North 2016

bit.ly/pathpolo

Android API, Java, Pebble API, Google Maps API

2016

- Built an Android and Pebble watch app to guide the visually impaired using haptic feedback

Education

University of Waterloo

Candidate for B.A.Sc in Computer Engineering with Honours

Expected April 2020

- Awarded University of Waterloo Presidents Scholarship
- Class Representative for the Waterloo Engineering Endowment Fund

Certificates

Oracle Certified Associate: Java SE 7 Programmer, 2015

US Provisional Patent 62/080,276: SYSTEM AND METHOD OF EFFICIENT LOCATION DETERMINATION AND PAGING BETWEEN GROUPS IN CROWDED LOCALES USING WI-FI, 2015