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SKILLS

Proficient

Python, C, C++, Javascript/ES6,
React, Redux, AngularJS, JQuery,
SQL, GraphQL, PHP, Ruby on Rails,
Bootstrap, Protobuf

Familiar

Java, C#, Scheme, Angular2,
Express, Bottle, Hadoop,
WebdriverIO, Mocha, Chai, Jest,
Oxygine, SDL, MIPS Assembly

Tools

Git, Vagrant, Docker, Nginx,
Virtualbox, Webpack, Postman,
Jenkins, Twilio

EDUCATION

University of Waterloo

Candidate for BCS, 4A
2015 - 2020 (Ongoing)

Coursework

Data structures and algorithms, OOP,
multi-threaded programming,
dynamic programming, networking,
machine learning, artificial
intelligence, computer security,
compilers, operating systems,
relational databases, computer
architecture

ACHIEVEMENTS

Dean's Honours List, 2016

Term Average 87%+
University of Waterloo

Presidents Scholarship, 2015

Entrance Average 90%+
University of Waterloo

Bronze Med, 2013

Lifeguarding certification
National Lifeguard Association

4th Place, 2012

National Finals
Canadian Music Competition

Patricia McLean Scholarship, 2008

Highest Canada-wide exam mark
Royal Conservatory of Music

Robin Pan

SOFTWARE DEVELOPER

WORK EXPERIENCE

Minted | San Francisco, CA, USA | Jan 2019 – April 2019

Software Engineer

- Rebuilt comment thread feature to improve UX and performance
 - Implemented REST API endpoints for feature using Python and Bottle
 - Added interface to back-end with ES6 and GraphQL
 - Built various front-end components using React and Redux
 - Introduced tagging with email notification services via Kafka pipelines
 - Used Protobufs as a communication medium across different servers
- Added token checking for the Facebook login, preventing CSRF attacks

MyTime | San Francisco, CA, USA | May 2018 – Aug 2018

Full-Stack Developer

- Developed full-stack for MyTime's scheduling software using AngularJS, JQuery, Ruby on Rails and MySQL
- Worked with Twilio API to improve functionality of SMS messaging feature
 - Optimized phone number lookups, reducing cost by 40%
 - Implemented SMS messaging to worldwide phone numbers
- Implemented tracking for SMS usage and monthly overage charges
- Added automated color-coding options for calendar tiles

Mercury Mortgages | Mississauga, ON, Canada | Sept 2017 – Dec 2017

Full-Stack Developer

- Built features for web-based mortgage lending platform using AngularJS, Bootstrap, JQuery, Laravel PHP and PostgreSQL
- Designed and implemented various features to increase website security
 - Introduced user roles feature to control website access with the help of profile data
 - Limited failed password attempts by IP and email combination
 - Added password strength enforcement
- Decreased loading time of main page from 4+ seconds to 2 seconds
- Optimized PDF generation feature, reducing generation time by 30%

Ciena Corporation | Ottawa, ON, Canada | Jan 2017 – Apr 2017

Photonics Software Designer

- Developed tool for analysis of network card logs using Python
- Used card firmware source code to investigate error conditions
- Performed maintenance tasks on network cards

PROJECTS

PyScribe (<https://github.com/robin-pan/PyScribe>)

Python

- Parses digital sheet music and then generates appropriate piano fingerings for each note
- Uses genetic algorithm with two-point crossover and a hall-of-fame to search solution space
- Capable of finding optimal fingerings for rudimentary exercises such as scales or arpeggios
- Generates comfortable assignments for polyphonic music excerpts

Snek (<https://robin-pan.github.io/snek.html>)

C++, Oxygine, Emscripten

- Parody of the real-time arcade game 'Snake'
- Employs various object-oriented design patterns such as subject-observer
- Embedded onto website after transpiling C++ to Javascript using Emscripten

Compiler

C++, MIPS Assembly

- Fully functional compiler for the language WLP4, converting statically typed code into executable machine code
- Performs tokenizing, parsing, and semantic analysis to generate intermediate assembly code
- Assembler converts 32-bit MIPS into machine language