Hugo Klepsch

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Related Qualifications

Proficiency in computer programming and programming tools

- Languages:
  - C, C++, Node.js (typescript), Bash, Python, Java, Perl, Motorola 68k assembly
- Tools
  - Git, Vim, GCC / G++, Docker, Kubernetes, RabbitMQ, Eclipse, Visual studio, various UNIX command line tools
- Development strategies
  - agile, waterfall, scrum
- Programming paradigms
  - Object oriented, imperative, event-driven

Linux administration

- 7+ years of Linux desktop experience
  - Used daily on laptop (100% Linux)
  - Have used Ubuntu, Mint and Arch Linux
- 5+ years of Linux server experience
  - Have administered multiple servers through the command line
  - Have used Ubuntu server, Fedora server, and Arch Linux
  - Wrote server administration scripts in bash and Python to automate maintenance
- Very proficient with Linux terminal tools

Languages spoken

- English (native)
- French

EDUCATION

Software engineering (Co-op), Marketing management minor

University of Guelph

September 2015 – Present

- Dr. Mary McLeish Scholarship recipient (Highest GPA in Software engineering major)
- Progress: second year completed
- Took first, second and third year courses in physics, computer science, software design, discrete mathematics, calculus, and economics.

M. M. Robinson high school

September 2011 – June 2015

- Graduated with french immersion certificate and four years of honour roll.
- Formally educated in computer hardware, robotics, and server management during computer engineering courses.

EMPLOYMENT HISTORY

Native back-end developer

May 2017 – December 2017
Carnegie Technologies

- Developed native C++ GPS and ephemeris libraries for use in embedded devices
- Participated in the design of, and implemented REST style microservices using node.js and RabbitMQ.
- Implemented complete containerization of a production deployment with 20+ unique microservices using Docker, Kubernetes and Helm.
- Designed and implemented native (C++) and node (node.js) RabbitMQ messaging library with support for a variety of usage patterns (Consumer, Requester)
- Designed and implemented C++ JSON manipulation and validation library with support for proprietary extensions to JSON schema specification
- Provisioned docker based build server environments for a variety of Linux based development stacks
- Provisioned build server images for a variety of Windows and Mac development stacks
- Created a metrics monitoring library for Prometheus and Grafana
- Instrumented a variety of existing services using above metrics library

VOLUNTEER HISTORY

M. M. Robinson high school's robotics club, "Rambotics"

September 2013 – Present
Current position: Alumni and
programming mentor
Past positions: Lead programmer,
robot driver

- Conceptualized and implemented the 2013 and 2014 control system.
- Developed team management skills directing the programming team.
- Physically implemented CAD designs with manufacturing tools to accurately produce parts.
- Corespondent with professional sponsors to acquire industry-standard high-precision sensors.
- Promoted interest in robotics community through live robot demonstrations and community outreach programs

Audio, video and networking support

December 5 – 7, 2016,
December 5 – 7, 2015,
December 4 – 6, 2014
Halton VEX robotics competition

- Created and managed internal subnet
- Built and configured competition database server for 80+ local teams
- Set up viewing stations with competition software on subnet and managed competition scheduling.

PROGRAMMING PROJECTS

Online multiplayer chess

December 2nd, 2017
HTTP Chess API

- Very simple HTTP API to play chess with another player
- Transient game sessions joinable with a shareable key
- HTTP API makes cross-platform gaming easy

'Squad messenger' instant messenger

April 2015 – June 2015
Cross-platform instant messenger
for Android, Windows, Linux, and
Mac

- 'Chatroom' style persistent instant messenger
- Collaborated in small team using git and eclipse team management tools
- Designed the Android app to interface with server software
- Designed cross-platform communications protocol

OPEN SOURCE CONTRIBUTIONS

avast-tl/retdec

December 2017 – Present
Avast's "Retargetable Decompiler"
https://github.com/avast-tl/retdec

- Proposed and added Docker support
- Added several example use cases to README
- Support users in GitHub issues

netmail-open/wjelement

November 2017
Netmail's Pure C JSON library
https://github.com/netmail-open/wjelement

- Found and fixed bug causing library not to compile with glibc
- Added date-time support to it's JSON schema verification system

DefinitelyTyped/DefinitelyTyped

July 2017
High quality typescript type definitions
https://github.com/DefinitelyTyped/DefinitelyTyped

- Added typescript type definitions for various node.js libraries

HACKATHONS

Major league hacking (MLH)

December 2nd, 2017
University of Guelph local hack day

- Designed online multiplayer HTTP chess API

Code design to win

Sept 20th, 2017
Communitech coding challenge

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