
Summary of Qualifications

- Proficient in C++, Node.js, Python, Java
- Proven experience with Motion Planning, Robotics, Machine Learning
- Fourth Year BSc, Computer Science, UBC (Comp. July 2017)
- Experience with team management roles

Experience

Google, Software Developer Intern (May – August 2016)

<http://google.com>

- Contributed to improving Chrome Autofill for 100M+ users
- Created an automated integration testing suite for Autofill in Chrome
 - Removed the need for tedious manual reliability/website compatibility testing
- Experimental investigation of future directions for Autofill
 - Prototyped a next-gen automated checkout solution during an internal two-day hackathon

Tesla Motors, Software Engineering Intern (January – April 2016)

<http://tesla.com>

- Co-developed a new CAN requirement spec. format for company-wide usage w/ Model 3
 - Replacement for DBC, designed for data de-duplication, flexibility, and auto-optimization
- Created a fully-featured JCAN editor application (Canode), used by all firmware teams
 - Natively multi-platform, fully asynchronous, loosely coupled and highly cohesive
 - Provides instantaneous bus analysis results and input feedback for improved workflow
- Advised on and enabled data driven decision-making for Model 3 CAN architecture
- First week: built and deployed a release artifact service with LDAP authenticated web app

UBC Sailbot, Software Lead (Sept 2013 – Present) Autonomous Sailboat

<http://ubcsailbot.org>

- Record for the furthest autonomous boat crossing of the Atlantic Ocean
- Won the International Robotic Sailing Regatta in 2014, 2013, and 2012
- Optimal real-time motion planning with dynamic obstacles in the complex sailing domain
- Efficient, optimal global path planning considering weather data for performance and risk
- Created a novel marine obstacle detection system using thermal imaging & CV
- Developed a fully redundant sensor system with intelligent failure-resistant firmware
- Power management for an embedded system, accounting for solar charging
- Managed a 17-person software team with Agile methods (Scrum)

Vparq, Founder, CTO (May 2015 – Present) Digital replacement for parking passes

<http://vparq.com>

- Designed a distributed stack consisting of Angular.js, Node.js, PostgreSQL, Redis
- Created a responsive real-time web app using Angular.js and Socket.io
- Allowed for scalable deployment with a stateless RESTful API backend using JWT auth

Vikom Media, Founder, Full-Stack Developer (Sept 2011 – Present)

<http://vikom.io>

- Reached 1.7 million unique visitors by creating a MVC web app (AdCraft.co 2011)
- Constructed a modern, optimized, and responsive image sharing website
- MySQL, MongoDB optimization and management. Ported a system to AWS DynamoDB
- Long-term software consulting to Water Wall Turbine Inc. (Web Development / Graphics)
- Operating a registered business and negotiating deals with client organizations

Education

The University of British Columbia, Vancouver, BC, Sept 2013 - Present
Bachelor of Science (Computer Science): Expected completion July 2017

Education *continued*

Coursera (Stanford), Summer 2015
Intro to Machine Learning – Andrew Ng

Udacity (Georgia Tech), Summer 2014
Artificial Intelligence for Robotics – Sebastian Thrun

Scholarships and Awards

Top Oral Presentation – UBC Multidisciplinary Undergraduate Research Conference, 2015

Dean's Honours List – UBC, 2014

Lions Bay Community Foundation Scholarship, 2013

Rotary Sunrise Scholarship – Rotary West Vancouver, 2013

Outstanding Youth Team Award – West Vancouver District, 2012 & 2013

Recognized for 350+ hours of total school service, 2013

Technical Skills

Programming:	C++, Node.js, Python, Java, Haskell, CUDA System architecture, embedded firmware, data structures, algorithms Proven experience with implementing AI, ML, CV in real-time systems
Data & Statistics:	R, statistical analysis, particle filters, Kalman filters
Networking:	TCP/IP, CAN, RS232, WebSocket, routing
Markup:	HTML, CSS, Markdown
Databases:	PostgreSQL, MongoDB, database schema design
Other:	Proficiency with UNIX shell
Graphical Design:	Extensive experience with UI/UX design principles & Adobe CC

Other Relevant Experience

Hackathons

- Google Code Jam 2014 - Passed Qualification Round, travel prevented further progression
- EA Code Wars 2014 - Developed a simple Android game in 12 hours

Co-treasurer / Executive - Interact Club, Rockridge Secondary, Sept 2011 – June 2013

- Led presentations in front of small to medium crowds (50-300 people)
- Money management / Bookkeeping

Executive - Business Club, Rockridge Secondary, Sept 2012 – June 2013

- Founded and operated profitable retail business
 - Performed market analysis and optimized product supply accordingly
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Management Skills

Project management:	Effective communicator, highly organized, detail-oriented Experience with hands-on management of large teams Inspiring teams to be scrappy in implementing ambitious visions Negotiating sponsorships and partnerships Long-term project planning
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