

# Simon Benjamin Orion Parent

Kitchener, Ontario

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sboparen.github.io

## SUMMARY OF QUALIFICATIONS

- Three years of experience leading software projects using various languages and platforms
- Adaptive to new problem domains; eager to learn new tools and methods
- Strong mathematical background and attention to detail

## HIGHLIGHTED TECHNICAL SKILLS

- Languages: Python, Shell Scripting, C, Assembly (ARM, x86), C++, Racket, Ruby, Java
- Essential Everyday Tools: Linux, GNU Userland, Git, Vim, SSH, L<sup>A</sup>T<sub>E</sub>X, DWM, ST

## PROJECT LEADERSHIP EXPERIENCE

### Route Optimization Team Lead, Transit Labs, 2014/06 – 2016/05

I took ownership of the route optimization research prototype, and turned it into a complete software package, which continues to serve as the foundation of the RideCo product. This included the creation of a test suite, design of APIs to interface with other components, and packaging for cloud deployment. I was also responsible for the oversight and mentoring of the optimization team, contributions to the overall system architecture, and leadership in planning activities relating to optimization features.

### Course Support for Real-Time Programming, University of Waterloo, 2010/09 – 2012/08

In 2009, the OS kernel assignments for the infamous “trains” course that I took as an undergraduate moved from x86 to an ARM architecture. Beyond my TA duties, I took charge of writing the new material required to update the neglected course resources, which included replacing legacy code.

### Video Codec Programmer Intern, Magnum Semiconductor, 2008/05–08, 2009/01–04

Using the official specification and little else, I was the sole developer of a software video encoder for the VC-1 codec. Its purpose was to provide a bit-exact reference output for the encoder being developed by the hardware team. Working together, we discovered and resolved a critical defect in their encoder.

### 3D Graphics Programmer Intern, SideFX, 2007/01–04, 2007/09–12

I was given free reign to tackle the unreliability plaguing the tool for performing boolean operations on arbitrary surface geometry. After a careful analysis of the existing algorithms, I devised and implemented extensive revisions which greatly improved numerical stability and the handling of boundary cases.

## EDUCATION

### Master of Mathematics in Computer Science, University of Waterloo, 2014

*How Programmers Comment When They Think Nobody's Watching*

[sboparen.github.io/thesis](https://sboparen.github.io/thesis)

### Bachelor of Mathematics, University of Waterloo, 2010

Double Honours Co-op: Computer Science (97.63 average) and Pure Mathematics (97.20 average)

## OTHER ACTIVITIES

- Certification Level N1 (89th percentile), Japanese-Language Proficiency Test (日本語能力試験), 2018
- System Administrator and Stepchart Artist, UW Dance Dance Revolution Club, 2012 – Present
- Eighth Place (Individual Open Division), Internet Problem Solving Contest, 2016, 2017
- Musical Comedy Co-Playwright, *FASS for President*, FASS Theatre Company, 2013
- Problem Setter and Judge, International Olympiad in Informatics, 2010
- World Finalist and Bronze Medallist, ACM International Collegiate Programming Contest, 2007, 2008