

Bryan Coutts

bryan.coutts1994@gmail.com

EDUCATION Bachelor of Mathematics, University of Waterloo
Honours *Computer Science*
Honours *Combinatorics and Optimization*
Honours *Pure Mathematics*
Graduated April 2017

TECHNICAL SKILLS Best languages: Python, Racket, C, bash
Other known languages: C++, Java, Javascript, SQL, Perl, Haskell, MATLAB
Math specializations: Optimization, Quantum Computing, Functional Analysis
Other skills: Linux, vim, git, svn, L^AT_EX

WORK EXPERIENCE **Operations Research Engineer** September 2017 - Present
Veyo Logistics, San Diego, CA

- Designed and implemented prototype VRP solver that outperforms open source alternative Jsprit by 10-30% on real data, with much lower running time.
- Primary maintainer of production routing workflow.

Undergraduate Research Assistant May 2017 - August 2017
Institute for Quantum Computing, University of Waterloo, Waterloo, ON

- Conducted research regarding the applications of semidefinite optimization to quantum information theory.

Software Engineer (Operations Research) May 2015 - August 2015
Veyo Logistics, San Diego, CA

- Developed algorithm and prototype for accurately and very quickly estimating vehicle travel times.
- Developed algorithm and prototype for finding mileage saving vehicle trip merges.

Instructional Support Assistant January 2014 - April 2014
Instructional Support Group, University of Waterloo, Waterloo, ON

- Held office hours, ran tutorials, and handled course administration for CS 136.
- Developed *Seashell*, a browser IDE to develop and run C and Racket programs.

Software Developer May 2013 - August 2013
Afilias Limited Canada, Toronto, ON

- Wrote software to automatically generate statistical reports.

Software Developer September 2012 - December 2012
Agri-food and Agriculture Canada, Ottawa, ON

- Developed software pipelines for the analysis and display of genomic data.
- Wrote software to improve the quality of several related genomes.

PERSONAL PROJECTS These projects and more can be seen on my github page, github.com/b2coutts

plat Python

- Developed a simple 2D platforming engine.

blob C++

- Co-wrote a program for visually displaying overlapping sets of graph vertices.

asciitan Racket

- Created a text-based implementation of the *Settlers of Catan* tabletop game.
- Implemented as a TCP server/client.