

Josh Bradshaw

Systems Design Engineering Student

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Technical Experience

- May–Aug 2014 **Machine Learning Developer**, *Watrhub Inc. (Surge Accelerator Startup)*, Toronto ON.
- Implemented and extensively validated positive-unlabelled text document classifiers based on recent journal articles in the machine learning field.
 - Built a web crawler for finding financial documents on municipal websites, utilizing support vector machines to decide which HTTP responses to download.
- Sept–Dec 2013 **Software Developer**, *Watrhub Inc. (Surge Accelerator Startup)*, Toronto ON.
- Designed and implemented a parser for PDF documents with tabular and textual content.
 - Built a user facing search tool for the web application.
 - Reduced the runtime of a parser by 20x, improving the data request response time by several hours.
 - Built sophisticated web scrapers capable of handling Javascript and dynamically generated content.
- Jan–May 2014 **Satellite Controls Developer**, *WatSat (Student Design Team)*, Waterloo ON.
- Built a functioning satellite for the Canadian Satellite Design Challenge
- Designed interface between motherboard and radio transceiver; facilitating data transfer to and from the satellite while its orbit places it above North America.
 - Created test plans for the power management and telemetry systems.
- Jan–May 2013 **Performance Test Automation Developer**, *CIBC*, Toronto ON.
- Initiated and implemented a script validation tool in Object oriented python which saved 10-20 hours of manual effort per weekly testing cycle.
 - Created, and maintained scripts for spreadsheet manipulation, automatic report generation, logfile parsing, and data analysis.
 - Executed performance tests on www.pcfincancial.ca and documented the results in technical reports.
- Jun–Aug 2012 **Turbine Controls Tester**, *Vaspac (Nuclear Power Consultancy)*, Dundas ON.
- Applied human factors engineering principles during the revision of a turbine controls testing suite's desktop forms, and documentation.
 - Performed user acceptance testing on a variety of desktop applications.

Foundational Experience

- 2011–2012 **Medical Education Workshop Leader (Volunteer)**, *MacMedSS*, Hamilton ON.
- Lead a dissection workshop for top-achieving high school students.
- Independently researched, and audited medical school lectures to learn the subject matter.
 - Collaborated with surgical residents and medical students to improve the program.
- 2010–2012 **Rock Climbing Instructor (Part Time)**, *Gravity Climbing Gym*, Hamilton ON.
- Taught clients the basics of rock climbing, and ensured their safety.
- Aug 2011 **Music Teacher (Volunteer)**, *Highland Secondary*, Hamilton ON.
- Instructed full time at a two week jazz camp for high school students.

Education

Independent Learning and Technical Side Projects.

- Completed all exercises in Probabilistic Programming and Bayesian Methods for Hackers – learned applied statistical modelling and the fundamentals of machine learning.
- 40 completed puzzles on Project Euler – learned basics of number theory.
- 25 completed puzzles on Rosalind.info –learned statistical methods, string manipulation algorithms and basics of genetics.

2012–2017 **Candidate for B.A.Sc. in Systems Design Engineering, *University of Waterloo.***

- (expected)
- Introduction to Design: studied and applied the design process while prototyping a bracing device in partnership with the Canadian Association for Disabled Skiing.
 - Human Factors Engineering: rigorously studied human machine interaction concepts and applied them to interface and process design.

Awards

Jan 2014 **Engineering Co-op Student of the Year, *University of Waterloo.***

Only first year ever to win. Granted in recognition of achievements at Watrhub Inc. and CIBC.

May 2013 **Technology Co-op Achievement Award, *CIBC.***

Received the award for significant improvements in server testing process.

May 2013 **Impact Award, *CIBC.***

Granted in recognition of the success of my self-initiated automatic report generation tool.

2012 **Community Involvement Scholarship, *P.E.O., Hamilton-Burlington Chapter.***

Granted in recognition of my extensive volunteering at a community day camp.

2012 **Engineering Entrance Award + President's Scholarship, *University of Waterloo.***

2012 **Third Place: Physics@Mac Online Contest, *McMaster University.***

Passions and Hobbies

- Worked for two years as a licensed street performer to finance my instruments.
- Have performed professionally in a variety of jazz bands.
- Avid rock climber, mountain biker and outdoor adventurer