

Ian Waudby-Smith

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Education

University of Waterloo

Bachelor of Mathematics, Pure Mathematics & Statistics (Co-op)
GPA: 90% (Cumulative), 91% (Major)

Waterloo, ON, Canada

2013–2018 (anticipated)

Norwegian University of Science and Technology

Bilateral Exchange

Trondheim, Norway

Fall 2017

Experience

University of Waterloo Health Data Science Lab

Research Assistant (Part-time)

Supervisors: Dr. Joel Dubin & Dr. Joon Lee, Health Data Science Lab

- Performed sentiment analysis on millions of electronic medical records.
- Used logistic regression and survival models for inference/prediction.
- Wrote a paper summarizing methods and results (submitted).

Waterloo, ON, Canada

May 2016–Current

University of Waterloo

Research Assistant (Full-time)

Supervisor: Dr. Pengfei Li, Department of Statistics & Actuarial Science

- Wrote an R package to perform robust statistical tests (on CRAN).
- Used parallel computing to reduce simulation time by more than 95%.
- Proved (asymptotic) relationships between statistical tests of interest.

Waterloo, ON, Canada

Apr 2017–Aug 2017

University of Waterloo

Research Assistant (Part-time)

Supervisor: Dr. Yu-Ru Liu, Department of Pure Mathematics

- Attended a weekly number theory seminar for Ph.D. students.
- Studied "An Introduction to Sieve Methods and Their Applications" by Cojocaru & Murty.
- Organized and compiled exercises for *PMATH 347: Groups and Rings*.

Waterloo, ON, Canada

Jan 2017–Apr 2017

Cancer Care Ontario

Student Analyst - Strategic Analytics

Supervisor: Dr. Zhihui (Amy) Liu, Dalla Lana School of Public Health, University of Toronto

- Developed a model in R to predict prevalence of chronic kidney disease in Ontario.
- Performed Monte Carlo simulation.
- Wrote algorithms to quantify similarity between cancer treatments.

Toronto, ON, Canada

Jan 2016–Apr 2016

DST Systems*R&D Developer***Toronto, ON, Canada***May 2015–Aug 2015*

- Developed a MapReduce program to perform fuzzy string comparison.
- Wrote an XML to CSV converter for use with Hadoop's Distributed File System.
- Built a distributed application on the Ethereum blockchain network.
- Designed and built a Ruby on Rails application for a technology conference.

PureFacts Financial Solutions*Developer***Toronto, ON, Canada***Sept 2014–Dec 2014*

- Implemented an error handling pattern for fail-safe API calls.
- Created a tool similar to 'git stash' for subversion.
- Developed a web application for employee time-tracking.

Leonardo Worldwide Corporation*Software Developer***Toronto, ON, Canada***Jan 2014–Apr 2014*

- Optimized image and video media storage functionalities.

Presentations & Projects**Statistical Society of Canada***44th Annual Meeting***St. Catharines, ON, Canada***June 2016**Multi-state models for chronic kidney disease prevalence projections in Ontario (poster presentation).***Statistical Society of Canada***4th Student Conference***St. Catharines, ON, Canada***June 2016**Multi-state models for chronic kidney disease prevalence projections in Ontario (oral presentation).***Cancer Care Ontario***Research Day 2016***Toronto, ON, Canada***April 2016**Sequence analysis of patient-care pathways: A study of colorectal cancer in Ontario (poster presentation).***HackTheNorth***Annual hackathon at the University of Waterloo***Waterloo, ON, Canada***September 2015*

- Visualized the sentiment of tweets referring to Canadian political parties.
- Retrieved tweets using the python library, tweepy.

DeltaHacks*Annual hackathon at McMaster University***Hamilton, ON, Canada***February 2015*

- Made Wikipedia accessible via SMS using Twilio and the Wikipedia API.

Computational Skills**Programming languages:** R, Python, Java, C++, Scheme, JavaScript**Technologies:** SQL, Linux, git, Hadoop, L^AT_EX

Awards**David Johnston International Experience Award***2017–2018*

NSERC Undergraduate Student Research Award	<i>2016–2017</i>
President's Research Award (1)	<i>2016–2017</i>
President's Research Award (2)	<i>2016–2017</i>
University of Waterloo President's Scholarship of Distinction	<i>2013–2014</i>
Highest Graduating High School Average in Caledon, Ontario (96.8%)	<i>2012–2013</i>

Languages

English: Native

French: Intermediate

Mandarin: Elementary