

# 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*

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

### **PureFacts Financial Solutions**

*Developer*

**Toronto, ON, Canada**

*Sept 2014–Dec 2014*

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

### **Leonardo Worldwide Corporation**

*Software Developer*

**Toronto, ON, Canada**

*Jan 2014–Apr 2014*

- o Optimized image and video media storage functionalities.

## **Presentations & Projects**

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### **Statistical Society of Canada**

*44<sup>th</sup> Annual Meeting*

**St. Catherines, ON, Canada**

*June 2016*

*Multi-state models for chronic kidney disease prevalence projections in Ontario (poster presentation).*

### **Statistical Society of Canada**

*4<sup>th</sup> Student Conference*

**St. Catherines, 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*

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

### **DeltaHacks**

*Annual hackathon at McMaster University*

**Hamilton, ON, Canada**

*February 2015*

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

## **Computational Skills**

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**Programming languages:** : R, Python, Solidity, JavaScript, Ruby on Rails, C++

**Technologies:** : SQL, Linux, git, Hadoop, L<sup>A</sup>T<sub>E</sub>X

## **Awards**

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**David Johnston International Experience Award**

*2017–2018*

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

## **Languages**

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**English:** Native

**French:** Intermediate

**Mandarin:** Elementary