

# Ian Waudby-Smith

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## Education

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### 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

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### 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*

### 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*

- 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.

**Toronto, ON, Canada**

*May 2015–Aug 2015*

**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**

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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*

- 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**

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**Programming languages:** R, Python, Java, C++, Scheme, JavaScript**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***NSERC Undergraduate Student Research Award***2016–2017***President's Research Award (1)***2016–2017*

**President's Research Award (2)** *2016–2017*

**University of Waterloo President's Scholarship of Distinction** *2013–2014*

**Highest Graduating High School Average in Caledon, Ontario (96.8%)** *2012–2013*

## **Languages**

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**English:** Native

**French:** Intermediate

**Mandarin:** Elementary