

# Ian Waudby-Smith

✉ ian.waudby-smith at uwaterloo.ca

🌐 github.com/wannabesmith • 🌐 waudbysmith.com

## Education

### University of Waterloo

*B.Math., Pure Mathematics & Statistics (Co-op)*

**Waterloo, ON, Canada**

*2013–2018 (anticipated)*

### Norwegian University of Science and Technology (NTNU)

*Exchange (study abroad)*

**Trondheim, Norway**

*Aug 2017–Dec 2017*

## Experience

### University of Waterloo Health Data Science Lab

*Research Assistant (Part-time)*

**Waterloo, ON, Canada**

*May 2016–Current*

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).

### University of Waterloo

*Research Assistant (Full-time)*

**Waterloo, ON, Canada**

*Apr 2017–Aug 2017*

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.

### Cancer Care Ontario

*Student Analyst - Strategic Analytics*

**Toronto, ON, Canada**

*Jan 2016–Apr 2016*

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.

### DST Systems (c/o IFDS)

*R&D Developer*

**Toronto, ON, Canada**

*Apr 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*

- o Managed and delegated support tasks to a team of developers.
- o Wrote scripts to optimize retrieval and storage of images and videos.
- o Created a video encoding scheme for multiple file formats and resolutions.

**Presentations & Projects**

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**rbtt****Waterloo, ON, Canada***R package on CRAN**Sept 2017*

Developed and currently maintain an R package to perform robust inference on non-negative, zero-inflated data. Created with Dr. Pengfei Li at the University of Waterloo.

**Statistical Society of Canada****St. Catherines, ON, Canada***44<sup>th</sup> Annual Meeting**June 2016*

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

**Statistical Society of Canada****St. Catherines, ON, Canada***4<sup>th</sup> Student Conference**June 2016*

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

**Cancer Care Ontario****Toronto, ON, Canada***Research Day 2016**April 2016*

*Sequence analysis of patient-care pathways: A study of colorectal cancer in Ontario (poster presentation).*

**HackTheNorth****Waterloo, ON, Canada***Annual hackathon at the University of Waterloo**September 2015*

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

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

- o 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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<b>David Johnston International Experience Award</b>	<i>2017–2018</i>
<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>Ontario Top Scholar</b>	<i>2012–2013</i>