

# Ian Waudby-Smith

✉ iwaudbysmith@gmail.com • 🌐 github.com/wannabesmith  
🌐 waudbysmith.com

## 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

*Exchange (study abroad)*

**Trondheim, Norway**

*Aug 2017–Dec 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**

*Apr 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*

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

## **Presentations & Projects**

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**rbtt***R package on CRAN***Waterloo, ON, Canada***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***44<sup>th</sup> 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***4<sup>th</sup> 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**

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**Programming languages:** R, Python, Java, C++, Scheme, JavaScript

**Technologies:** SQL, Linux, git, Hadoop,  $\text{\LaTeX}$

## 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