Ian Waudby-Smith

✉ *ierws at uw.edu*
🌐 *waudbysmith.com*

Education

2018 - present	**PhD, Biostatistics**, *University of Washington*, Seattle, WA.
2013 - 2018	**BMath, Joint Honours in Pure Mathematics & Statistics (Co-op)**, *University of Waterloo*, Waterloo, ON. With Distinction - Dean's Honours List
Fall 2017	**Mathematical Sciences (study abroad)**, *Norwegian University of Science and Technology (NTNU)*, Trondheim, Norway.

Experience

May 2016 - present — **Research Assistant (Part-time)**, *Health Data Science Lab*, Waterloo, ON.
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).

Apr - Aug 2017 — **Research Assistant (Full-time)**, *University of Waterloo*, Waterloo, ON.
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.

Jan - Apr 2016 — **Student Analyst - Strategic Analytics**, *Cancer Care Ontario*, Toronto, ON.
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.

Apr - Aug 2015 — **R&D Developer**, *DST Systems (c/o IFDS)*, Toronto, ON.
- 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.

Sept - Dec 2014 — **Developer**, *PureFacts Financial Solutions*, Toronto, ON.
- 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.

Jan - Apr 2014 — **Software Developer**, *Leonardo Worldwide Corporation*, Toronto, ON.
- 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

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

Jun 2016 **44th Annual Meeting**, *Statistical Society of Canada*, St. Catherines, ON.
Multi-state models for chronic kidney disease prevalence projections in Ontario (poster presentation).

Jun 2016 **4th Student Conference**, *Statistical Society of Canada*, St. Catherines, ON.
Multi-state models for chronic kidney disease prevalence projections in Ontario (oral presentation).

Apr 2016 **Research Day 2016**, *Cancer Care Ontario*, Toronto, ON.
Sequence analysis of patient-care pathways: A study of colorectal cancer in Ontario (poster presentation).

Sept 2015 **Annual hackathon at the University of Waterloo**, *HackTheNorth*, Waterloo, ON.
- Visualized the sentiment of tweets referring to Canadian political parties.
- Retrieved tweets using the python library, tweepy.

Feb 2015 **Annual hackathon at McMaster University**, *DeltaHacks*, Hamilton, ON.
- 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, LaTeX**

Awards

2018 - 2019 **UW Top Scholar Recruitment Award**, *University of Washington*, Seattle, WA.

2017 - 2018 **David Johnston International Experience Award**, *University of Waterloo*, Waterloo, ON.

2016 - 2017 **NSERC Undergraduate Student Research Award**, *The Natural Sciences and Engineering Research Council of Canada*.

2016 - 2017 **President's Research Award (1)**, *University of Waterloo*, Waterloo, ON.

2016 - 2017 **President's Research Award (2)**, *University of Waterloo*, Waterloo, ON.

2013 - 2014 **University of Waterloo President's Scholarship of Distinction**, *University of Waterloo*, Waterloo, ON.

2012 - 2013 **Top Ontario Scholar**, *Peel District School Board*, Region of Peel, ON.