

# IAN WAUDBY-SMITH

Statistics PhD Student at Carnegie Mellon University

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📍 Pittsburgh, PA

## EXPERIENCE

### Research Student

#### The Hospital for Sick Children (SickKids)

📅 Apr 2019 – Aug 2019

📍 Toronto, Canada

Advisor: Eleanor Pullenayegum

- Developed statistical models to estimate measures of quality-of-life and wrote R packages for each of them.
- Ran large-scale simulations on a high-performance computing cluster.
- Currently writing paper summarizing methods & results.

### Research Assistant

#### University of Waterloo

📅 May 2016 – June 2018

📍 Waterloo, Canada

##### Project 1: Nursing notes, sentiment, and survival

Advisors: Joel Dubin & Joon Lee

- Performed sentiment analysis with Python on millions of clinical notes written by nurses — [link to paper](#).
- Used R to fit logistic regression and survival models.

##### Project 2: Robust tests for zero-inflated data

Advisor: Pengfei Li

- Wrote an R package that makes  $t$ -tests more robust for zero-inflated data — [link to R package on official CRAN repository](#).
- Made algorithms up to 20 times faster by parallelizing code on a high-performance computing cluster.

### Student Analyst

#### Cancer Care Ontario

📅 Jan 2016 – Apr 2016

📍 Toronto, Canada

Advisor: Amy Liu

- Developed a model in R to forecast prevalence of chronic kidney disease in Ontario — [link to conference poster](#).
- Wrote algorithms to quantify similarity between cancer treatments.

### R&D Developer

#### International Financial Data Services

📅 Apr 2015 – Aug 2015

📍 Toronto, Canada

- Wrote a MapReduce program to perform fuzzy string comparison.
- Built a distributed application on the Ethereum blockchain network.

## PUBLICATIONS

### 📖 Journal Articles

- Ian Waudby-Smith, Nam Tran, Joel A Dubin, and Joon Lee (2018). "Sentiment in nursing notes as an indicator of out-of-hospital mortality in intensive care patients". In: *PLOS ONE* 13.6.

### 👥 Conference Presentations

- Ian Waudby-Smith, Zhihui Amy Liu, Ali Vahit Esensoy, Jessica Mofatt, and Olli Saarela (2016). "Multi-state Models for Chronic Kidney Disease Prevalence Projections in Ontario". In: Statistical Society of Canada Annual Meeting.

## EDUCATION

### PhD, Statistics

#### Carnegie Mellon University

📅 2019 – present

📍 Pittsburgh, PA

- Research: non/semi-parametric methods, anytime-valid inference, causality, targeted learning
- GPA: 4.2/4.0

### BMath, Pure Mathematics and Statistics Joint Honours (Co-op)

#### University of Waterloo

📅 2013 – 2018

📍 Waterloo, Canada

- Dean's Honours List
- GPA: 89.6/100

## PROGRAMMING

Proficient with **R**, **Python**, **Haskell**

Comfortable with **C**, **C++**, **Julia**

## TOOLS

Proficient with **Linux**, **git**, **SQL**, **LaTeX**

Comfortable with **Open MPI**, **Hadoop**

## AWARDS



### NSERC Undergraduate Student Research Award

The Natural Sciences and Engineering Research Council of Canada, 2017



### President's Research Award

University of Waterloo, 2017  
University of Waterloo, 2016



### David Johnston International Experience Award

University of Waterloo, 2017

## INTERESTS

drumming

snowboarding

audiobooks

award travel