Ian Waudby-Smith

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Education

University of Waterloo **Waterloo, ON, Canada**
Bachelor of Mathematics, Pure Mathematics & Statistics (Co-op) *2013–2018 (anticipated)*
GPA: 90% (Cumulative), 91% (Major)

Norwegian University of Science and Technology **Trondheim, Norway**
Bilateral Exchange *Fall 2017*

Experience

University of Waterloo Health Data Science Lab **Waterloo, ON, Canada**
Research Assistant (Part-time) *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 **Waterloo, ON, Canada**
Research Assistant (Full-time) *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.

University of Waterloo **Waterloo, ON, Canada**
Research Assistant (Part-time) *Jan 2017–Apr 2017*
Supervisor: Dr. Yu-Ru Liu, Department of Pure Mathematics
- Attended a weekly number theory seminar for Ph.D. students.
- Studied "An Introduction to Sieve Methods and Their Applications" by Cojocaru & Murty.
- Organized and compiled exercises for *PMATH 347: Groups and Rings*.

Cancer Care Ontario **Toronto, ON, Canada**
Student Analyst - Strategic Analytics *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 **Toronto, ON, Canada**
R&D Developer *May 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 **Toronto, ON, Canada**
Developer *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 **Toronto, ON, Canada**
Software Developer *Jan 2014–Apr 2014*
- Optimized image and video media storage functionalities.

Presentations & Projects

Statistical Society of Canada **St. Catherines, ON, Canada**
44^{th} 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^{th} 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*
- Visualized the sentiment of tweets referring to Canadian political parties.
- Retrieved tweets using the python library, tweepy.

DeltaHacks **Hamilton, ON, Canada**
Annual hackathon at McMaster University *February 2015*
- Made Wikipedia accessible via SMS using Twilio and the Wikipedia API.

Computational Skills

Programming languages: : R, Python, Solidity, JavaScript, Ruby on Rails, C++

Technologies: : SQL, Linux, git, Hadoop, LaTeX

Awards

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

English: Native
French: Intermediate
Mandarin: Elementary