ALLEN DING

Statistician + Data Scientist

@ allen.ding2@gmail.com   ☎ 647-909-4166

WORK EXPERIENCE

Mathematical Statistician
Statistics Canada

📅 October 2020 – Ongoing   📍 Ottawa, Canada

- Provides statistical expertise to clients and stakeholders regarding survey methodology, modelling approaches, and machine learning techniques
- Applies modern statistical and data science methods to produce valuable and timely official statistics for Canadians
- Leads the redesign and modernization of the Visitor Travel Survey to reduce imputation and introduce modelling methods to decrease the cost of interviewers at airports while maintaining statistical quality
- Conducted a feasibility study on using Bayesian models with non-survey data to improve estimates of Market Basket Measure poverty rates for the sparse population in the Northern Territories
- Designed the methodology for the Canadian Tourism Activity Tracker and created the production program using **R** and **SQL**. Resulted in a leading-edge product that tells a story on how the Canadian tourism industry is recovering from the pandemic
- Published a research paper on using novel small area estimation methods to integrate responses from voluntary COVID-19 questionnaires with COVID-19 survey responses
- Developed a **SAS** program for clients to automatically classify post-secondary students' data using LASSO logistic regression and calculate/calibrate non-linkage weights for use in statistical inference
- Created an **R** program to automatically read PDFs of Statistics Canada job applicants, extract and clean raw text responses, and classify the results in order to develop actionable insights

Junior Mathematical Statistician
Statistics Canada

📅 June 2019 – October 2020   📍 Ottawa, Canada

- Created an **R Shiny** dashboard for clients to conduct exploratory data analysis and interpret modelling results
- Streamlined and automated major tasks for the Visitor Travel Survey using **R** to reduce production time for publishing official statistics
- Implemented hierarchical clustering using **R** and **ArcGIS** on geospatial data and developed recommendations for senior management on acquisition of new geospatial data sources

Methodologist Intern
Canada Revenue Agency

📅 April 2018 – August 2018   📍 Ottawa, Canada

- Linked personal, business, and investment income tax data using **SQL** and created a risk-scoring model to evaluate the tax compliance of Canadian residents

SKILLS

R   SQL   SAS   Python

HTML/CSS/JavaScript

Tableau   PowerBI   Excel

GatsbyJS   LaTeX   RegEx   Git

Inferential and Predictive Statistics

Data Visualization   Data Wrangling

Statistical Consulting   Agile Dev.

SPEAKING ENGAGEMENTS

🔊 **Seminar Presenter**
Statistics Canada, Jan. 2021
Topic: Integrating crowdsourced data with survey data using small area estimation techniques

💬 **Web Panelist**
University of Toronto, Mar. 2021
Statistics Alumni Web Panel

👤 **Speaker**
Statistics Canada, Jan. 2022
Mathematical Statistician Post-Secondary Recruitment Campaign

EDUCATION

B.Sc. in Statistics with Focus in Health and Disease
University of Toronto

📅 September 2014 – June 2019

LANGUAGES

English   ●●●●●

French   ●●●●○