

# ALLEN DING

Statistician + Data Scientist

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📞 647-909-4166

## WORK EXPERIENCE

### Mathematical Statistician

Statistics Canada

📅 October 2020 – Ongoing

📍 Ottawa, Canada

- Provide statistical expertise to clients and analysts regarding survey methodology, modelling approaches, and machine learning techniques
- Lead the redesign of the Visitor Travel Survey to reduce data imputation and introduce modelling methods to decrease the cost of interviewers at airports while maintaining statistical quality
- Conduct a feasibility study on using non-survey data to improve estimates of household 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** with automatic model adjustments and data visualizations for validation. 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 automate the calculation and calibration of non-linkage weights for the Post-Secondary Students Information System
- 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 insights on increasing awareness for recruitment campaigns

### 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
- Proposed and implemented hierarchical clustering on geo-spatial data using **R** and **ArcGIS** to speed up the project and meet client deadlines
- Provided support to clients and developed recommendations for their senior management on acquisition of new 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

