

# Taylor Dunn

Halifax, Nova Scotia

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## Experience

### Biostatistician

Halifax, NS

Ardea Outcomes

2017-

- Worked on global clinical trials and real-world evidence studies in multiple disease areas. Duties included:
  - Study planning: protocols, statistical analysis plans, data management plans, literature reviews.
  - Data management: reporting, transfers, database maintenance, monitoring, queries.
  - Statistical analysis, interpretation, and presentation of results.
  - Project management and communication with industry clients.
- Conducted patient-centric research, resulting in several peer-reviewed publications and presentations. Examples:
  - Developed a machine learning model to predict patient dementia stage, achieving 83% balanced accuracy. ([Paper 1](#), [paper 2](#).)
  - Used data simulations to investigate statistical properties of the Goal Attainment Scaling outcome measure. ([Project 1](#), [project 2](#).)
  - Analyzed neuropsychiatric symptoms reported by over 4000 online users tracking dementia symptoms. ([Paper](#).)
  - Presented public webinars on patient-centric outcomes. ([Xtalks](#), [WorkCast](#).)
- Built the R code infrastructure for many data management activities, saving analysts several hours per week in each project:
  - Developed internal R package for interfacing with AWS database and transforming raw clinical trials data into clean tabular data sets.
  - Developed internal R package for company-branded figures and RMarkdown reporting templates.
  - Developed open-source R package for simulating Goal Attainment Scaling data in clinical trials. ([GitHub](#).)
  - Created reproducible and efficient ETL pipelines for reading data from multiple sources, processing, validating, exporting, and reporting.
  - Developed internal Shiny dashboards and deployed on AWS for live data monitoring.

### Teaching Assistant

Halifax, NS

Dalhousie University, Department of Physics

2014-2016

- Aided instruction of Physics students in the undergraduate course *Introduction to Numerical Programming*.
- Ran weekly Python tutorial sessions, graded assignments and projects, and gave lectures when professor was absent.

## Education

### Dalhousie University

Halifax, NS

MSc Physics

2014-2016

### University of Prince Edward Island

Charlottetown, PE

BSc Physics, Honours

2009-2014

## Projects

### Canadian COVID-19 dashboard

<https://taylor-dunn.shinyapps.io/canadacovidshiny/>

2022

- A dashboard built in Shiny that reports and visualizes the latest COVID-19 numbers in Canada.

### canadacovid

<https://taylordunn.github.io/canadacovid/>

2021

- An R package to pull Canadian COVID-19 data from a public API. Published on [CRAN](#).

### TidyTuesday dashboard

<https://taylor-dunn.shinyapps.io/tidyuesday-dashboard/>

2022

- A dashboard built in Shiny compiling tweets for the [TidyTuesday data project](#).

### dunnr

<https://github.com/taylordunn/dunnr>

2020

- A personal R package of plotting templates and functions that I commonly use.

## Skills

### Programming

R: tidyverse, Shiny, ggplot2, RMarkdown, tidymodels  
Python: NumPy, Pandas, Seaborn, Scikit-learn  
SQL – Bash – C

### Tools

Git – Amazon Web Services  
Docker – Google Cloud Platform  
GitHub Actions – Mendeley

### Data analysis

Generalized linear modeling – Machine learning  
Random forest – Support-vector machines  
K-nearest neighbors – Principal components analysis  
Data simulation – Visualization – Data scraping