Spencer Arbuckle, PhD

saarbuckle@gmail.com | (204) 293-2862 | British Columbia, Canada | [Personal Website](#) | [LinkedIn](#)

SELECTED EXPERIENCE

Clinical Data Lead, MindMaze (Switzerland) – *growth stage startup*   08/2023 – *present*

- Responsible for developing a model of medico-economic efficiency for MindMaze's flagship home-based physical neurorehabilitation program (using gamified intervention technologies).
- Led the end-to-end development (writing, reviewing, & testing) of an analytical pipeline for a real-world clinical implementation at Mount Sinai Hospital (NYC) using DBT on Snowflake with Prefect.
- Built a return-on-investment model as the neurorehab program and accompanying data pipeline was expanded into other geographies and health systems (US & Switzerland; 300+ patients).
- Established a data-driven approach to MindMaze's neurorehab program by transforming their use of medical device data via integration with patient medical histories to provide profiled insights for the clinical deployment team (10 members coordinating with 30+ staff across 6 rehab hospitals).
- Provided business insights (with visualization using PowerBI & Google Sheets dashboards) to implementation and senior leadership teams (medical, engineering, logistics) on topics such as clinical and financial impacts of early inpatient discharge and patients' idiosyncratic device usage.

Public Health Data Scientist, Statistics Canada   06/*2022 – 08/2023*

- Developed a medico-economic model (combining road network data from Open Street Map with StatCan data holdings in R) to estimate the out-of-pocket costs of new clinical delivery methods across Canada. Model was used by Canada's Drug Agency in their drug evaluation framework.

Neurotechnology Course Developer, Queen's University   02/*2022 – 03/2023*

- Helped secure $1M CAD from the Ontario Government and developed a series of courses about how our brains and neurotechnologies work, and how neurotech can tackle real-world problems.

Lead Analyst, Canadian Science Policy Centre   02/*2022 – 06/2023*

- Spearheaded the re-organization of the team's analytical pipeline by developing a set of standards for data organization and template code for analyses used by 15 analysts.
- Delivered annual data insights and recommendations to external financial sponsors.

Computational Neuroscientist, Western University   01/*2016 – 10/2021*

- Led multiple parallel projects investigating the neural organization for dexterous hand control.
- Helped develop a Bayesian model pipeline for multivariate statistical analysis of brain imaging datasets, which is now used in multiple international neuroscience research labs.
- Secured over $100K CAD in funding from competitive scholarships and research grants.

EDUCATION

- **PhD, Computational Neuroscience**
  Western University *2021*

- **BSc (Honours), Psychology**
  Queen's University *2014*

SKILLS

- Tools: *DBT, git, PowerBI, Python, R, REDCap, SQL*
- Oral communication: presenter at numerous international conferences; 4 invited lectures; taught university level statistics & data science courses
- Writing: 9 peer-reviewed articles; 3 funded grants