Riley **Wheadon**

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EXPERIENCE

University of British Columbia - *Student Researcher*

APRIL 2024 - DECEMBER 2024

- ➔ Awarded a research grant for undergraduate students (NSERC USRA) to develop mathematical models and computer simulations of root cell behaviour.
- ➔ Improved simulation speed by **over 10x** by using `numba` to compile Python code.
- ➔ Discovered a **previously unknown interaction** involving the CLASP protein and worked with experimental biologists to validate the significance of this discovery.
- ➔ Presented findings at an **invited talk** (UBC Undergraduate Mathematics Colloquium) and the Canadian Undergraduate Mathematics Conference.
- ➔ Authored a **research paper** (link) detailing my findings, publication pending.

University of British Columbia - *Teaching Assistant*

SEPTEMBER 2023 - PRESENT

- ➔ Received student evaluations **averaging 4.9/5** from 35 responses over 4 semesters.
- ➔ *"Riley made helpful comments when we seemed to be stuck. I liked the fact that he did not just reveal the correct solving method and answer right away, but rather helped us to figure it out by ourselves."* - Anonymous Student
- ➔ **Led over 5 workshops**, a responsibility typically held by graduate students.

PROJECTS

Polll (link)

NOVEMBER 2024 - PRESENT

- ➔ Built a web application and social network for creating and sharing polls.
- ➔ Launched in **10 weeks**. We currently have **30 unique accounts** with no marketing.
- ➔ Expanded my skills in **database design** and **full-stack web development**.
- ➔ Developed **complex SQL queries** in PostgreSQL functions.

A Structural Analysis of Academic Writing (link)

NOVEMBER 2024

- ➔ Uncovered **actionable patterns** in academic writing using **AI sentiment analysis**.
- ➔ **Curated a step-by-step formula** for writing an abstract and introduction that conforms to best practices used by researchers in leading academic journals.
- ➔ Presented my findings in a graduate-level course on mathematical biology.

Havoc on the Hill (link)

JANUARY 2023

- ➔ Implemented a web scraper in Python to collect data about the Canadian government.
- ➔ **Identified and computed important metrics** such as bills passed per day, average deliberation time, and bills proposed by party.
- ➔ Produced **data visualizations** using the `matplotlib` and `plotly` Python libraries.

EDUCATION

University of British Columbia - *B.Sc. Mathematics, Minor in Statistics*

SEPTEMBER 2022 - APRIL 2026

- ➔ Cumulative average of **94.1% (A+)**
- ➔ Courses: Courses: Data Science (A+), Probability I-II (A+), Honours Linear Algebra (A+), Statistical Inference (in progress), Data Structures and Algorithms (A+), Calculus I-IV (A+)

SKILLS

- ➔ Programming: **Python**, R, **SQL** (PostgreSQL, SQLite), Javascript, HTML, CSS
- ➔ Libraries: `scipy`, `numpy`, `matplotlib`, `numba`, `BeautifulSoup4`, `flask`, `ggplot2`
- ➔ Software: PowerBI, Tableau, Git, Shell (Unix), JupyterLab, Vim, Obsidian

AWARDS

- ➔ Trek Excellence Scholarship (awarded to the **top 10%** of UBC science students)
- ➔ Stanley M. Grant Scholarship (awarded to an outstanding 2nd year mathematics student)
- ➔ **Best Delegate** (1st place) at Canadian High School Model United Nations (2021, 2022)
- ➔ **Team Alberta** cross country runner and competitor in **Cross Country Nationals** (2021)
- ➔ Royal Conservatory of Music Grade 10 piano, with **First Class Honours**