

Work & research experience

Computational Research Technician ([Goeva lab](#))

2025/06 - *current*

University of Toronto

Toronto, Canada

- Lead and assisted with multiple projects (e.g. designing & developing novel computational analysis methods, generating library/package implementations for internal projects, conducting performance optimization of existing methods, analyzing large-scale scRNA-seq datasets, orchestrating systematic benchmarking)
- Drove manuscript (as first author) and project/equipment grant writing
- Mentored, provided guidance to, and onboarded trainees in the lab
- Managed lab hardware, software, and cloud/web infrastructure

Graduate Student ([Stratton lab](#))

2022/09 - 2025/04

McGill University

Montreal, Canada

- Trained other students in and assisted with various bioinformatics/computational matters across a variety of projects, including: code upload policies, data management policies, technical troubleshooting, and RNA-seq analysis/visualisation
- Conducted miscellaneous software development (e.g. creating a data format conversion service, establishing data ingestion pipelines for longitudinal time-series data, generating novel visualisation methods for scRNA-seq data)
- Trained other lab members in applied wet lab techniques
- Mentored undergraduate students (e.g. by providing advice on thesis project direction and writing)
- Involved in multiple publications as a co-author
- Conducted thesis work, involving: animal handling, surgical interventions, tissue collection, tissue processing, IF-IHC, light microscopy imaging (epifluorescent and confocal), image analysis, RNA extraction, RNA-seq analysis (bulk and single-cell), and genotyping.

Lab Helper B ([Stratton lab](#))

2022/05 - 2022/08

McGill University

Montreal, Canada

- Developed a novel data visualization tool
- Assisted with data management and infrastructure handling
- Involved in multiple publications as a co-author

Course Assistant ([COMP 189](#))

2022/01 - 2022/04

McGill University

Montreal, Canada

- Held weekly office hours
- Answered student questions on class forums
- Graded assignments

Education

Master of Science - Thesis based: Integrated Program in Neuroscience (cGPA: 4.0 / 4.0)

2022/09 - 2025/05

McGill University

Montreal, Canada

- Thesis: *[Investigating effects of ependymal IFNGR activation in neuroinflammatory contexts](#)*
- Supervisor: Jo Anne Stratton

Bachelor of Science: Major Neuroscience - Cell/Molecular Stream (cGPA: 3.91 / 4.0)

2019/09 - 2022/05

McGill University

Montreal, Canada

Project portfolio

[glimGamPoi](#) ([goeva-lab fork](#)) - Core *fork* developer

Developed a fork of the existing [glimGamPoi](#) library to improve performance and allow for use with atlas scale scRNA-seq data.

[found](#) - Core developer

Developed a complete implementation of the previously published HiDDEN framework, with packaged libraries for both [Python](#) and [R](#).

[UMAT](#) - Sole developer

Independently developed a toolkit for comprehensive processing of MERSCOPE-generated data.

[UAPL](#) - Sole developer

Independently developed a set of adapters allowing direct access to data stored in [AnnData](#) objects for plotting via [plotnine](#).

[SCS](#) - Sole developer

Independently developed a graphical tool for annotation of cells from single-cell spatial datasets using arbitrary user inputs.

[UDP](#) - Sole developer

Developed a static-site-based interface for visualization/exploration of single-cell datasets.

Technical skills

Programming languages and frameworks

Python: extensive experience, comfortable with desktop application development, generic data science ([pandas](#), [polars](#), [geopandas](#), [numpy](#), [vega-altair](#), [seaborn](#), [plotnine](#)), scRNA-seq analysis ([anndata](#), [scanpy](#), [squidpy](#)), and machine learning ([jax](#), [flax](#), [optax](#), [pytorch](#)) workloads

R: extensive experience, comfortable with generic data science ([data.table](#), [lme4](#), [ggplot2](#)), RNA-seq analysis ([Seurat](#)/[SingleCellExperiment](#)/[scraper](#), [DESeq2](#)/[glimGamPoi](#)), and geospatial ([sf](#)) workloads

Rust: extensive experience, comfortable with backend ([axum](#), [tokio](#)-related ecosystem, [rayon](#)) and desktop ([bevy](#), [macroquad](#)) application development, as well as [Python](#) or [R](#) interop via [PyO3](#) or [rextendr](#)

C++: strong experience, comfortable with computational algebra ([Eigen](#), [Armadillo](#)) methods development, as well as [R](#) interop via [Rcpp](#)

Sh/Bash/Zsh: extensive experience with shell scripting and UNIX/POSIX command line tools

HTML/CSS/JavaScript/TypeScript: intermediate experience with web-app development ([solidJS](#))

Lua: extensive experience with generic scripting/configuration applications and game development ([LÖVE](#), [PICO-8](#))

Typesetting systems: extensive experience with using [LaTeX](#), [Typst](#), and [CommonMark/Markdown](#) for manuscript, grant, website, and miscellaneous document drafting

Applications and systems

Containerization solutions: extensive experience with using [Docker](#) for application deployment and packaging, [Apptainer](#) for HPC utilization, and [Kubernetes](#) for orchestration and deployment

Linux system administration: extensive experience with Linux/UNIX/POSIX systems, comfortable with [apt](#), [dnf](#), [pacman](#), and [nix](#) - based distributions

Continuous Integration / Deployment: extensive experience with orchestrating automated pipelines for project testing and deployment via [GitHub Actions](#) and [GitLab CI](#)

HPC Utilization: extensive experience with utilizing High Performance Computing infrastructure via the [SLURM](#) scheduling system to run complex, heterogeneous, intensive, and fallible workloads

Presentations / posters

- Wellcome Connecting Science 6th Single Cell Biology Conference** 06/2026
Wellcome Sanger Institute Wellcome Genome Campus, Hinxton, United Kingdom
- Poster title: *found - a HiDDEN implementation*
- Single Cell and Spatial Biology in Precision Medicine Workshop** 12/2025
McGill Institute of Genomic Medicine Bellairs Research Institute, Holetown, Barbados
- Talk title: *MERFISH case studies - successes and troubleshooting, discussion and considerations*
- 16th International Congress of Neuroimmunology** 08/2023
International Society of Neuroimmunology Quebec City, Canada
- Poster title: *Ependymal interferon-gamma receptor activation plays a crucial role in mediating ependymogliosis and periventricular barrier integrity*

Awards

- Laszlo and Etelka Kollar Fellowship** 2023 - 2024
Awarded by the McGill Faculty of Medicine on the basis of academic merit
- Tomlinson Engagement Award for Mentoring (BIOL 201)** 2022
Awarded for notable performance and engagement while taking the course and conducting peer mentoring in the following year

Extracurriculars

- Donnelly PDF/RA “Big Data - Omics & Bioinformatics” Symposium - Organizer** 2026/03 - 2026/05
Helped organize the May 2026 Donnelly PDF/RA “Big Data - Omics & Bioinformatics” Symposium. Determined the program, recruited speakers, worked to advertise event to ensure attendance, and managed logistics on the day of.
- Toronto Bioinformatics Hackathon - Organizing Committee Member & Judge** 2024/06 - 2025/11
Helped organize the 2024 and 2025 Toronto Bioinformatics Hackathons, managing duties related to the judging process (rubric creation, judging scheduling, etc.) while also serving as a judge. Managed data and compute infrastructure, handling HPC deployment and serving as a liaison with [SciNet](#) (2024) and [AWS](#) (2025) staff on behalf of the Organizing Committee. Attended in a mentor and advisor capacity, holding office hours and helping troubleshoot any technical issues throughout the hackathon.
- Neuroimmunology Unit Technical Workshops - Sole Organizer and Workshop Lead** 2022/12 - 2025/05
Lead and organized workshops on various technical bioinformatics-related topics for members of the Neuroimmunology Unit & associated staff at the Montreal Neurological Institute.
- McGill Computer Task Force - Technical Coordinator** 2023/05 - 2025/05
Oversaw and managed all technical projects organized by the [McGill Computer Task Force](#), including:
- Free [election service](#) for clubs, empowering admins to easily organize online elections using a friendly web UI while allowing students to authenticate via McGill credentials
 - Free [web hosting service](#) for clubs, allowing clubs to run websites with automated TLS certificate management on CTF infrastructure
 - Free [hardware/laptop lending](#), [printing](#), and [computer lab services](#) for students
 - Self-hosted infrastructure for student developers, including running instances of [Zulip](#) & [GitLab](#), [a custom OIDC server](#), a Kubernetes cluster, as well as self-managed [DNS](#) and [DHCP](#) servers
 - Broad technical workshops provided for McGill students and internal workshops for CTF members