

MONTE MAHLUM

(+1) 612-845-6048

monte.mahlum@mail.mcgill.ca

Minneapolis, MN

[LinkedIn](#)

[Website](#)

[GitHub Repository](#)

Driven student and researcher, passionate about making the art of math, physics, and problem-solving more accessible. Long history of science communication via tutoring and podcasting.

EDUCATION

University of Minnesota M.Sc. in Mathematics

2024 – 2026

McGill University B.S. in Mathematics, Minor in Physics, GPA: 3.45

2020 – 2024

Univerzita Karlova Semester Abroad, Local GPA: “Excellent”

2023

Relevant Coursework (14+ at honours level)

Algebra (groups, rings, and modules), Calculus, Differential Geometry, Functional Analysis, Lie Theory, Mathematical Logic, Measure Theory, Physics (classical & quantum), Probability, Statistics, Stochastic Processes.

PROFESSIONAL EXPERIENCE

Mathematics Research Assistant, University of Minnesota, Twin Cities

July 2023 – Present

- Working to ensure convergence and well-posedness of a novel deep learning algorithm developed by W. Lee, L. Wang, W. Li, outlined [here](#).
- Employing functional analysis, algorithm design, probability theory, and geometry to explore high dimensional Wasserstein gradient flow.
- Development of strong research skills and ability to synthesize and present diverse data and ideas.
- Explicit results unpublished, but available upon request. For reference, please contact Professor Li Wang (liwang@umn.edu).

Calculus I, Probability, and Linear Algebra Tutor, Freelance

Nov 2023 – Present

- Teaching abstract concepts to people who are unaccustomed to this way of thinking and enabled significant academic progress from failure to high passing. (†)

Calculus Tutor, Jewish Academic Student Support (†)

Sep 2022 – Dec 2022

Wilderness Tripping Guide, YMCA Camp Widjiwagan

May 2021 – Aug 2022,

- Led youth on extended backpacking and canoeing trips.
- Managed 35 kids throughout 8 trips totaling 60+ days on trail.
- Developed leadership, teamwork, communication, teaching/mentorship, and project management. For reference, please contact karen.pick@ymcamn.org.

PROJECTS

Manifold Institute

April 2024 – Present

Summer program for youth (12-18 yrs) on creative problem solving where beautiful ideas in math and physics are used as the medium. The program has been deferred to Summer 2025. See [website](#) for details.

Directed Reading Program

Jan 2024 – Present

Mentorship with [Alexis Leroux-Lapierre](#) on categorification in algebraic geometry, representation theory, and mathematical physics.

Fibrations Podcast

Sep 2022 – Dec 2023

Creator and host. Exploring academic research at McGill University. Listen at [spotify.com/fibrations](#).

Lecture On Lie Theory With Applications To Quantum Physics

June 2023

Given for a Charles University physics course. Notes can be found [here](#).

SKILLS, LANGUAGES, AND OTHER EXPERIENCES

English (Native), Spanish, Python (see [Repository](#)), Latex, Jiu Jitsu (since 2022), Drums (since 2022), Piano (since 2020), Special Ed. Leader (Unified PE, 2018-2019, Circle of Friends, 2016-2020), Camp Counselor (Cathedral of the Pines, 2019).