

Sacha Goldman

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Education

MSc in Mathematics [University of Toronto](#)

September 2023 - August 2024

Fully funded Masters encompassing both course work and research. Studying algebraic and differential topology.

BSc in Mathematics and Computer Science [University of Toronto](#)

September 2019 - June 2023

Focused on math and applications to computer science. Studying differential and algebraic topology, algebra, differential geometry, machine learning, and quantum computing.

Research

NSERC Undergraduate Summer Research Award [The Torelli Lie Algebra](#)

May 2023 - September 2023

Working with Alexander Kupers and Daniel Litt on researching the Torelli Lie algebra.

Independent Research [Quantum Convolutional Neural Networks](#)

January 2022 - November 2022

Worked with Nathan Wiebe creating a quantum analogue of convolutional neural networks.

Scholarships

Raptors Foundation In-Course Scholarship [New College](#)

2023

In-Course Scholarship [New College](#)

2022

In-Course Scholarship [New College](#)

2021

William and Shirley Reed Scholarship [VSB](#)

2019

Teaching

MAT186 Teaching Assistant [University of Toronto](#)

September 2023 - December 2023

Running tutorials and grading for a differential and integral calculus course.

CSC236 Teaching Assistant [University of Toronto](#)

September 2021 - December 2021

Running tutorials and grading for a course introducing mathematics for computer science.

Employment

Software Engineer Intern [Apple](#)

May 2022 - August 2022

Worked on the team architecting Apple Media Apps solving unique technical challenges.

Software Developer Intern [SSENSE](#)

May 2021 - August 2021

Worked on the iOS team facilitating a transition to the composable architecture and SwiftUI.

Other Activities

Attendee Spaces of Manifolds: Algebraic and Geometric Approaches

2023

Attended the Banff International Research Station workshop online.

Speaker Canadian Undergraduate Mathematics Conference

2023

Spoke about using the Hopf fibration to calculate $\pi_3(S^2)$ using the long exact sequence of homotopy groups.

Academic Committee Math Graduate Student Association

September 2023 - August 2024

Helping to organize the Bird's Eye conference and the graduate student seminar.

Technical Proficiencies

SageMath, Lean, Python, C, \LaTeX , Git, Shell