Curriculum Vitae
Fahad Hossaini

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Education

HBSc Mathematics and Computer Science + PEY Co-op
University of Toronto, Mississauga, ON   September 2022 – May 2027 (Expected)

Research Experience

Beyond Octonions: Unraveling the Mysteries of Sedenions
Supervisor: Marina Tvalavadze   September 2025 – April 2026 (expected)

Reading Courses

p-adic Numbers and the Bruhat-Tits Tree
with Professor Isabella Negrini   May 2025 - June 2025

p-adic Analysis
with Professor Ehsaan Hossain   January 2025 - April 2025

Coursework

Groups, Rings, and Fields

Complex Analysis I

Analysis II

Introduction to Number Theory

Introduction to Topology

Linear Algebra I and II

Talks

Serious p-adic Power Series Problems   April 7, 2025
MCS Reading Course Showcase, University of Toronto Mississauga

p-adics and Their Problematic Antics   September 23, 2024
Math Club, University of Toronto Mississauga

Work Experience

Web Application Developer

Environment and Climate Change Canada, Toronto, ON   May 2025 – Present

- Developed a full-stack application using `C#`, Blazor and Visual Studio resulting in an accessible and modernized application that meets government standards.
- Managed databases and tables in SQL Management Studio and created an application to create reports using the information from tables and views for internal data analysis.
- Utilized Git effectively by making pull requests, dealing with merge conflicts and addressing comments, showcasing communication and teamwork skills.

Teaching Assistant

University of Toronto, Mississauga, ON   September 2024 – Present

- Taught 150+ students mathematics and computer science including topics such as logic, set theory, induction, integration and code correctness resulting in consistent tutorial participation.
- Responsible for planning and leading tutorials, marking, holding office hours and invigilation resulting in about 500 hours of practical experience.

Courses Taught:

- MAT102 - Introduction to Mathematical Proofs   Summer 2025
- CSC363 - Computational Complexity and Computability   Winter 2025
- MAT136 - Integral Calculus   Winter 2025
- MAT102 - Introduction to Mathematical Proofs   Winter 2025
- CSC236 - Introduction to the Theory of Computation   Fall 2024
- MAT102 - Introduction to Mathematical Proofs   Fall 2024

Code Sensei

Code Ninjas, Mississauga, ON   September 2021 – August 2024

- Taught 100+ students JavaScript through an in-house development program, `C#` through Unity Game Engine, Python, web development and robotics.
- Guided students to build their dream game such as an intense 2D roguelike in Unity.

Others

UTM Math Club Member   September 2023 – Present

Directed Reading Program   January 2025 - April 2025
(Distribution of Primes in Arithmetic Progressions)

Canadian Undergradute Mathematics Conference   May 2023