Moeez Muhammad

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Education

B.Sc, Honours Mathematics   **2022-2025 (expected)**
McGill University
Courses: Probability; Graph Theory; Algorithms and Data Structures; Graduate Combinatorics;
Real Analysis; Theory of Computation; Classical Mechanics

- Workshop director for competitive programming club
- Wrote official lecture notes on "Disjoint-Set Union" for Algorithms class

Contests, Awards, and Test Scores

- **1st place** at McGill CodeJam (hackathon) 2023
- **Summer Undergraduate Research Award (McGill)** (Summer 2023, ~$7000)
- **Feng Qian Award (McGill)** for computer science (~$3500)
- Qualified for **ICPC NAC** (North American Championship) in 2023 and 2024
- **1st place** at NPCompete 2022, McGill's programming competition
- **SAT**: 1590 (800 Reading/Writing, 790 Math)
- **Google Computer Science Research Mentorship Program** (Fall/Winter 2022)

Experience

Summer Undergraduate Research Project   **Summer 2023**

- Worked on project on **rigorous fixed-point finding of partial differential equations** with Prof. Jean-Philippe Lessard at McGill, alongside a team at Rutgers University
- **Developed simple and novel techniques** for rigorous computing, and implemented in **MATLAB**
- Topics researched spanned computational algebraic geometry, linear algebra and optimization, and combinatorial and computational geometry
- Gave **presentations every week** to research group on progress
- Read graduate-level textbooks and research papers

Projects

Space Invaders Emulator
   Emulator for the original Space Invaders arcade machine hardware and Intel 8080 microprocessor. Includes disassembler for the 8080
Chiyodiff
   Small tensor and automatic differentiation library written in C

Skills

Mathematics, Competitive Programming and Algorithms, C, C++, MATLAB, Python, Pandas, Linux and Bash, LaTeX and Tikz