Alex Mcneilly

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Education

Massachusetts Institute of Technology (MIT) Cambridge, MA

Candidate for B.S. in Computer Science (Minor in Mathematics) *Class of 2026*

- **Past Coursework:** Intro to Computer Science in Python, Intro to C and Assembly, Discrete Math, Linear Algebra
- **Fall Courses:** Algorithms (6.1210), Fundamentals of Programming (Python), Principles of Microeconomics
- **Activities:** SHPE, Sigma Nu Fraternity, 2023 MIT Pokerbots Competition, Citadel 2023 East Coast Datathon, TEDxBoston 2023 Speaker, Project Euler, MIT OpenCode

Experience

Grao VC Jun 2023 – Aug 2023

Venture Capital Analyst Intern *Pinheiros, Sao Paulo, Brazil*

- Incoming intern for a Sao Paulo-based venture capital family office that invests in early stage startups

Maine South HS Computer Science Club Sep 2020 – Jul 2022

President (2022), Hackathon Overseer (2022), Head of Marketing (2021), Hacker *Park Ridge, IL*

- Oversaw organization and promotion of two 24-hour annual hackathons in the Chicagoland area, impacting over 400 students through workshops, tech talks, and coding contests, securing $6,000+ in grants, prizes, and sponsorship
- Developed a color blob detection mobile app built in Java, C++, and OpenCV for the 2020 competition
- Developed and presented a social mental health studying app built in Java and Android Studio for the 2021 competition

Junior Economic Club of Chicago Jun 2021 - Jul 2022

Board Member, Chief Marketing Officer *Chicago, IL*

- Spearheaded data-driven strategies to increase engagement and attendance at over 30 economics and finance-related events
- Utilized social media analytics and engagement metrics to refine outreach efforts and expand membership to over 140 students across 36 Chicagoland schools
- Conducted qualitative and quantitative evaluations of member engagement to continuously improve the organization's event offerings and community impact

MIT MathRoots Summer Program Jun 2021 – Jul 2021

Student, Competition Participant *Virtual*

- Participated in a two-week mathematical talent accelerator for nationally selected high school students from underrepresented backgrounds or underserved communities
- Acquired advanced knowledge in discrete math concepts, proofs, probability, combinatorics, and LaTeX
- Collaborated with peers to solve complex mathematical problem sets and participated in math olympiad-style competitions

Projects

Assembly Game of Life | *RISC-V Assembly, C, PlatformIO* Dec 2022

- Implemented George Conway's Game of Life on a 8x32 LED display array using C and RISC-V Assembly
- Leveraged low-level programming techniques, such as registers and calling conventions, to optimize the performance of the simulation; Integrated a quicksort algorithm to efficiently process the data

Dynamic Snake Game | *C, PlatformIO* Nov 2022

- Developed a snake game as a 6.190 (Intro to C and Assembly) class project
- Utilized an array of 8-bit unsigned integers to represent the snake's location on 8x32 LED display array game board and implemented a buffer to efficiently display the snake's movement during play

S&P 500 Data Visualization Tool | *Python, Matplotlib* Oct 2022

- Programmed a dynamic S&P 500 data visualization tool using Python and Matplotlib
- Created features that allowed users to scroll through data from different months and years between 2008 and 2021 on a graph, providing an interactive and intuitive way to understand trends and patterns in the data.

Hygge: A Projection-Based AR Painting App | *Processing, P5.js, Node.js, HTML, CSS* Sep 2022

- Co-created a projection-based augmented reality interactive painting and dancing app, for the Samsung Project the Future of Wellbeing Hackathon at the MIT Media Lab

GeoTrigAR: AR Geometry Visualization Tool (https://tinyurl.com/geotrigar-paper) | *C#, XML* Mar 2022

- Researched and created an augmented reality geometry visualization demo app in C# and XML using ARCore and Unity Engine's ARFoundation for the Illinois Junior Academy of Science (IJAS) Science Fair 2022

Skills

Languages: *Proficient* – C/C++, Python, JavaScript, Java, LaTeX, HTML/CSS; *Prior Experience* – C#, SQL
Frameworks: *Proficient* – React, Node.js, Linux; *Prior Experience* – Pandas, NumPy
Developer Tools: *Proficient* – Git, VSCode, Figma; *Prior Experience* – Docker
Concepts: Object-Oriented Programming, Data Structures, Algorithms, Software Design Patterns, User Research