Alexander Mcneilly

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Education

Massachusetts Institute of Technology (MIT) Cambridge, MA

B.S. in Computer Science and Mathematics *Sep 2022 – May 2026*

Courses (including Fall 2024): Design and Analysis of Algorithms, Software Performance Engineering, Low-level Programming, Computer Architecture, Probability and Random Variables, Linear Algebra, Python Programming

Skills

Languages: Python, C++, C, TypeScript, JavaScript, Java, Go, Rust
Frameworks: Node.js, React, Express, Flask, WebGL, Three.js
Tools: Git, Linux, GraphQL, AWS, WebSockets

Experience

MIT Informatics Tournament — Lead Software Engineer *Fall 2023 — Present*

- Lead software development team to architect and deploy club's website and infrastructure tools to run contests
- Supported 1,300+ contestants from 50+ countries across 2 international contests, securing $20,000+ in sponsorship
- Created website branding and garnered support from top firms like Citadel, Jane Street, and Jump Trading

MIT STEP Lab — Software Engineering Intern *Summer 2024*

- Develop and enhance StarLogo Nova's Django backend for improved performance and scalability
- Improve WebGL 3D renderer for enhanced visual fidelity across browsers
- Collaborate with team on full-stack development, focusing on UI refinement and system optimization

MIT Media Lab — Software Engineering Intern *Feb 2024 – Mar 2024*

- Worked on AI-powered language learning features for smart glasses platform using Flask, FastAPI, AWS, and GPT-4
- Oversaw UI/UX changes to Android-based companion app, including dark mode UI and persistent transcription

Jane Street — Software Engineering IN FOCUS Participant *Jan 2024*

- Developed high frequency ETF trading bot in Python for electronic trading competition
- Applied functional programming knowledge in OCaml to build multiplayer snake game

MIT EECS — Teaching Lab Assistant (Programming and Data Science in Python) *Fall 2023*

- Enhanced 100+ students' Python skills with 50+ hours of personalized debugging assistance and code reviews
- Developed solutions and implemented test cases for two problem sets in a class of 300+ students

Projects

ToyBox 3D Game Engine [Ongoing] | *Three.js, WebGPU, TensorFlow.js, Node.js, Express.js, MongoDB*

- Develop highly performant web-based 3D editing service powered by AI techniques
- Designed an intuitive and user-friendly interface for seamless 3D editing in the browser

Ashland Compiler + Standard Library [Ongoing] | *Rust, LLVM, Clang, C++*

- Develop Rust-based compiler and standard library optimized for competitive programmers
- Design comprehensive standard library with algorithms and data structures commonly used in coding competitions

YOLOpoly: Monopoly with Options | *React, Node.js, Socket.IO, Express.js, MongoDB*

- Launching a fast-paced, browser-based version of Monopoly with options trading
- Implemented seamless multiplayer functionality for an engaging social experience

Intuition Notes | *React, Node.js, TensorFlow, OpenAI GPT, MongoDB, AWS*

- Developed an AI-powered note-taking app tailored for college students
- Designed an intuitive user interface and integration with presentation generator

Splocks: Code 3D Easily On The Web | *Three.js, WebGL, React, Node.js, Express.js, MongoDB*

- Create Scratch-style 3D graphics programming platform, set to launch in June 2024
- Design block functions and hierarchy for browser-based 3D block coding language