

# Brian Zheng

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Looking for Software Engineering Internship between **May 24th - September 4th**

## Education

**Massachusetts Institute of Technology | 5.00 CS GPA | 4.75 Overall GPA**

*September 2022 – May 2025*

Bachelor of Science in Computer Science and Engineering

Coursework: Design and Analysis Algorithms, Computation Structures

## Skills

**Programming Languages:** Python, JavaScript (TypeScript), Java, C, Assembly

**Technologies:** Next.js, React, AWS, APIs, AI, OpenAI, Node.js, CSS, HTML, Microsoft VSCode, Git

**Languages:** English (native), Mandarin (conversational), Spanish (Seal of Biliteracy)

## Experience

**MIT Kellis Lab | Web App:** seascapes.ai | **Lab:** compbio.mit.edu

*May 2023 – Present*

Full Stack Web Developer for Idea Navigator

Cambridge, MA

- Optimized backend Pubmed parser by reducing load from 200+ GB to 1 GB and runtime from hours to seconds.
- Leveraged Prisma for efficient frontend data access, reducing loading times from seconds to milliseconds.
- Created cluster labels using OpenAI API and improved frontend speeds by caching label positions on the backend.
- Revamped user experience by incorporating a loading screen for seamless page transitions, implementing intuitive line drawing features, and introducing effective data filtering based on years for enhanced visualization.

## Schoolhouse.world

*May – June 2022*

June SAT Bootcamp Tutor

Egg Harbor Township, NJ

- Trained 5+ hours and completed 3 research tasks to provide data for a research study on tutoring strategies.
- Tutored learners 3 hours/week in algebra, trigonometry, geometry, and testing skills to improve their SAT scores.

## NJ Governor's School of Engineering and Technology

*June – July 2021*

AI Researcher, Game Developer

New Brunswick, NJ

- Trained and tested 50+ AI models with waveform signals using MATLAB Classification Learner.
- Published an IEEE paper and presented findings at Rutgers University and **IEEE MIT URTC**.
- Developed a 2D game using GameMaker Studio 2 to help people improve their cognition and puzzle-solving skills.

## Projects

**Bounce** | Next.js, React, TypeScript, CSS, AWS, API

*June 2023 – Present*

**Web App:** main.d2ngor7ea7fphp.amplifyapp.com/ | **Github:** github.com/emilyy-liew/bounce/tree/main

- Retrieved commit history from Github **API** to create updates log page for developers.
- Implemented icon bar and loading screen, enhancing user access to Bounce's diverse pages.
- Improved UI by animating collapsible text boxes with seamless transitions and creating appealing color themes.

**Rick and Morty App** | Python, Flask, Javascript, CSS, HTML, API

*March 2023*

github.com/brianzheng205/Rick-and-Morty-App

- Retrieved and refactored data using **HTTP requests** to the Rick & Morty **API**.
- Created custom notes that users can edit and submit to **API** endpoints.

## Awards

**Certificate of Distinction, AIME Qualifier**

*January 2022*

Mathematical Association of America, American Mathematics Competition 12

## Publications

**Robustness Testing of Artificial Intelligence-Driven Hand Biometric-Based User Authentication in Mobile Devices**

*June 2021 – February 2022*

ieeexplore.ieee.org/document/9701620

- Found hand biometric-based phone authentication to be unreliable and impractical based on personal AI models.