

Brian Zheng

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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

Kellis Lab @ MIT | Web App: <http://seascapes.ai> | **Lab:** <http://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: <https://main.d2ngor7ea7fphp.amplifyapp.com/> | **Github:** github.com/emilyy-liew/bounce/tree/main

- Retrieved commit history from Github **API** to create updates log page with password authentication.
- 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

Link: ieeexplore.ieee.org/document/9701620

DOI: 10.1109/URTC54388.2021.9701620

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