

# Brian Zheng

brianzheng205@gmail.com | (609)-300-9820 | linkedin.com/in/brian205 | portfolio-brianzheng205.vercel.app

## Education

**Massachusetts Institute of Technology | 4.8 Major GPA | 4.7 Overall GPA**

September 2022 — May 2025

Bachelor of Science in Computer Science

Cambridge, MA

**Coursework:** Software Design, Data Visualization, Design and Analysis of Algorithms

## Skills

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

**Technologies:** Next.js, React, Redux, Node.js, XML, JSON, Git, Microsoft VSCode, Tableau, Word, PowerPoint, Excel

## Experience

**MIT CAVE Lab**

May 2024 — Present

Full Stack Developer Intern

Cambridge, MA

- Helped develop the CAVE Lab App that simplifies researchers' web development experiences using Python APIs.
- Improved website accessibility by implementing on-screen keyboard for inputs using **React**, **Redux**, and **JavaScript**.
- Created support for map features with 3D coordinates to add altitude and depth using **Mapbox** and **Three.js**.

**MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)**

May — September 2023

Full Stack Developer Intern

Remote

- Helped develop web app to help automatically label and sort unorganized data onto an intuitive 2D map.
- Optimized **XML** parser using **Python** by reducing load from 200+ GB to 1 GB and runtime from hours to seconds.
- Improved user experience by implementing helpful features using **React**, **Redux**, and **TypeScript**.

## Volunteer

**Schoolhouse.world**

May — June 2022

Tutor

Remote

- 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.

## Projects

**Portfolio** | Next.js, React, TypeScript, HTML, CSS

June 2023 — Present

**Website:** portfolio-brianzheng205.vercel.app | **Code:** github.com/brianzheng205/portfolio

- Implemented many reusable and adaptable **React** components to display project pictures with descriptions.
- Created components for skills buttons that redirect users to projects where I've used the corresponding skill.

**Decaf Compiler** | Rust

February — May 2024

- Implemented compiler that takes in Decaf code and generates corresponding Assembly code.
- Optimized using dataflow algorithms such as Copy Propagation and Dead Code Elimination.
- Optimized using strength reduction and algebraic simplification to decrease generated code length and complexity.

**The LLC Next Door** | Svelte, JavaScript, HTML, CSS

April — May 2024

**Website:** cammyt5.github.io/eviction-depiction

- Created a narrative visualization to show the effects that corporate property ownership has on Boston housing.
- Implemented table with sorting functionality to display home ownership rates and population for various cities.
- Implemented line chart using **Observable Plot** library to display home ownership rates between different areas.

**Pokerbots** | Python

January 2024

**Code:** github.com/brianzheng205/Pokerbots-2024

- Designed a program with adaptable strategies to take advantage of other programs' strategies.
- Iterated on design to improve strategy, ensuring that more recent versions could beat past versions.

**Bounce** | Next.js, React, TypeScript, HTML, CSS

June — September 2023

**Website:** main.d2ngor7ea7fphp.amplifyapp.com | **Code:** github.com/emilyy-liew/bounce

- 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.