

# Joshua Liu

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I am a rising junior at Brandeis University, looking for software engineering internship opportunities in computer science and applied mathematics, to further my interests and learn to apply my programming skills in the real world.

## EDUCATION

### Brandeis University

B.S. in Computer Science

Waltham, MA

(expected) Class of 2026

- Cumulative GPA: 3.97, Student-Athlete, Dean's List (Fall 2022, Spring 2023, Fall 2024)

## RELATED EXPERIENCE

### Boston College Computer Vision Research

Chestnut Hill, MA

Summer Software Intern

June 2023 - August 2023

- Summer research intern under Donglai Wei, a Professor in the field of Computer Vision and Biomedical Image Analysis at Boston College. Contributed to developing a web app that segments and labels neurons for clients.
- Developed the front end in React.js and the back end in FastAPI to help organize high-resolution images and labels of neurons by (labeling and tagging files) creating a way for clients to rename files and revert them.
- Developed a capability in React.js that allowed users to run multiple visualization tabs. Required updates to the FastAPI (Python) backend and modifications to run different instances of neuroglancer simultaneously.

### Brandeis University Machine Learning Research

Waltham, MA

Research Intern

October 2023 - present

- Meeting weekly with Professor Dylan Cashman of Brandeis University to research how to improve facial recognition and interpretability of machine learning models.

## OTHER WORK EXPERIENCE

### TravelMug

Boston, MA

Software Developer

December 2023 - present

- Developing a unique coffee recommendation website based on personal preferences and coffee roasting and brewing methods using React.js, Redux, and Firebase. Containerized the application with Docker and set up automated testing and deployment with GitHub and Azure.

### TAMID

Waltham, MA

Software Engineer

January 2024 - present

- Software engineer for Tamid Tech Consulting club at Brandeis University; developed a Unix Shell and a Persistent Database in C and learned SQL and NoSQL databases as a foundation for future projects.

## CLASS EXPERIENCE

### Java

- Experience with Java 8 in class and in Java projects such as a shortest-path (with weights) simulator using Dijkstra's shortest-path algorithm and with self-made hashmap, priority queue, and heap data structures. Built a Java chess leaderboard tracker implementing a self-balancing tree data structure. I have experience with debugging and JUnit testing in Java 8 through the Eclipse IDE.

### Python

- Experience with Python in class and projects such as a minesweeper game and nim game program. Built a face detection/recognition program in Python using singular value decomposition and programmed a machine learning model for Boston housing prices using k-means clustering and neural networks.

## EXTRACURRICULAR ACTIVITIES

### Varsity Baseball, Brandeis University

Waltham, MA

Walkon Outfielder/Pitcher

August 2022 - present

### Brandeis Quant Club

Waltham, MA

Club Member

August 2023 - present

## COURSEWORK

Theory of Computation ○ Linear Algebra ○ Data Structures and Algorithms ○ Fundamentals of SWE  
Discrete Structures ○ Web Application Development ○ Operating Systems ○ Linear Algebra

## SKILLS

Java ○ Javascript ○ Python ○ C ○ C++ ○ SQL ○ Docker ○ Azure ○ CosmosDB ○ CI/CD ○ Linux  
DevOps ○ React.js ○ FastAPI ○ MongoDB ○ Node.js ○ TensorFlow ○ Visual Studio Code ○ VIM