

Ali Sbeih

Education

Amherst College, Amherst, MA | Bachelor of Arts in **Computer Science and Mathematics** | Cumulative GPA: **3.845** | May 2025
Awards: **The Walker Teaching Award** for accomplishment and promise in teaching and tutoring mathematics

Work Experience

Software Engineer, **Microsoft**, Redmond, WA

August 2025 – Present

- Develop and maintain backend services for Azure Copilot and dashboard experiences within the Azure Portal using C#.
- Implement secure, scalable, and maintainable code using GenAI-assisted development and modern engineering practices.
- Design and validate technical solutions for plugin architecture, telemetry pipelines, and partner integrations.
- Participate in live site support, on-call rotations, and incident response for portal reliability.

Math Fellow, **Amherst College**, Amherst, MA

September 2022 - May 2025

- Dedicate time weekly to prepare for helping by reviewing study material and assignments provided to students
- Hold two 1.5-hour help sessions weekly for students taking Intermediate Calculus and group them based on needs
- Support students by asking questions about their thinking process and assisting with problem-solving techniques
- Provide feedback to the instructor about students' understanding, addressing student needs, and planning study sessions

Software Engineer Intern, **Microsoft**, Redmond, WA

May 2024 – August 2024

- Wrote a spec document and architected a system that automatically tests the video streaming on the Microsoft Learn platform
- Developed the system using **Typescript**, **node.js**, and **ffmpeg** and integrated it with **Azure** resources.
- Implemented the system and added availability testing, format testing, and streaming-protocol testing.
- Collaborated with mentors, manager, product manager and communicated updates and issues to the team.
- Lowered the time to detect multimedia streaming incidents from hours and days to less than a minute.

AILA(AI in the Liberal Arts) Tools/Mentorship Student Assistant, **Amherst College**, Amherst, MA

February 2023 - May 2024

- Developing documentation of various tools to mentor other students and community members on the use of A.I. technology
- Authored AI tool descriptions for newsletters and tool tabling events
- Developed and recorded a presentation on Image Recognition, utilizing Teachable Machine to educate students
- Organized and moderated the "Applications & Technical Approaches to AI" panel at the first AILA undergraduate conference

Lab and Evening Teaching Assistant, **Amherst College**, Amherst, MA

September 2022 - December 2022

- Assist 59 students from two sections with programming and problem solving during lab sessions for Intro Computer Science
- Read lab assignments and prepare to explain relevant ideas and answer related questions in the lab
- Conduct two-hour review sessions weekly and answer student questions about the material and programming with **Java**
- Track the performance of students and communicate with the instructor about common student struggles

Gregory S. Call Academic Intern, **Amherst College**, Amherst, MA

June 2022 - July 2022

- Assisted two professors in preparing a new web programming course, "Algorithms and Visualization"
- Tested web projects that use **JavaScript**, **HTML**, **CSS** that would be presented to students such as visualizing geometrical and graphical algorithms like breadth-first and depth-first search, stimulating cellular automaton, and finding the convex hull
- Provided suggestions and feedback for projects and concepts and assisted with developing learning resources
- Created guides on using **JavaScript** and **HTML**, using **GitHub**, using **jQuery** library, and installing **Node.js**
- Developed test questions to prepare for building RGB color picker, cellular automaton, convex hull, and algorithms

Supplemental Industry Education

Codepath Organization

- *Intermediate Android Development* (September 2022 - October 2022): Building applications using **Kotlin**
- *Intro to Mobile Product Development* (February 2022 - April 2022): developed a Flash Card app from scratch for Android, experienced saving app data to a database and working with it, and built transition animation when a button is clicked

Projects

- **Maze Generator**: Interactive demonstration of maze generation using Kruskal's algorithm. The weights of the edges are randomly assigned, and they are displayed using a color spectrum that ranges from red to blue.
- **Personal Website**: Uses a combination of **HTML** and **CSS** and contains an about page, which provides a short summary of my work experiences, a list of the courses I took at Amherst College, some of the projects I have worked on, and my resume.
- **Drawing-Canvas**: An interactive **SVG** panel that supports drawing via straight lines, switching colors, and erasing.
- **Convex-Hull-Animation**: An interactive visualization of Graham's scan algorithm for computing the convex hull of a set of points in the plane. The visualization allows the user to (1) specify an instance of the convex hull problem by clicking an **SVG** element to add points to the set, and (2) step through an execution of Graham's scan algorithm on the instance.
- **Dots-and-Lines**: **Web program** for creating a graph and performing breadth-first-search and depth-first-search algorithms.
- **Cellular-Automaton**: **Web program** that generates a collection of cells according to a set of states and rules. The user can set the desired universe size, color for cells, rule number, randomness and turn the first generation of cells on or off.
- **Flash Cards Application**: An **Android** basic flashcards app that allows the user to add cards and save them by saving the card's data to a database. The app supports animations such as transition, circular reveal, and sliding animations.
- **Huffman-Codes**: **Java** implementation of Huffman coding procedure used for generating an optimal prefix code for a given text file. The program reads a specified text file and generates a binary codeword for each character appearing in the text. The resulting encoding of the character values will result in the smallest possible character-by-character encoding of the text file.

Skills Proficient: TypeScript, JavaScript, Java | Familiar: HTML, CSS, Python | Exposed: C, Kotlin, Haskell, Prolog, ECLiPSe, Ruby