

Jessica Liu

Atlanta, GA | (470) 380-3707 | jessicatracyliu@gmail.com | jessicaliu06.github.io/portfolio

EDUCATION

Georgia Institute of Technology

Bachelor of Science in Computer Science, GPA: 4.00/4.00

Atlanta, GA

Aug. 2023 – May 2027

Georgia Institute of Technology

Bachelor of Science in Mathematics, GPA: 4.00/4.00

Atlanta, GA

Aug. 2023 – May 2027

EXPERIENCE

Software Engineering Intern

Niantic Spatial

May 2025 – Aug. 2025

Bellevue, WA

- Niantic Spatial Platform SDK

Undergraduate Teaching Assistant

College of Computing – Georgia Institute of Technology

Jan. 2024 – Present

Atlanta, GA

CS 3510 – Design & Analysis of Algorithms

Aug. 2025 – Present

- Teach advanced topics in algorithms (graph algorithms, dynamic programming, complexity theory); host office hours for classes of 600+ students; develop and grade homework assignments and exams.

CS 2110 – Computer Organization & Programming

Jan. 2025 – May 2025

- Lead weekly labs to teach fundamental concepts in computer architecture, assembly programming, C programming, and memory management; hosted office hours for 800+ students; designed and graded assignments/assessments.

CS 1331 – Object-Oriented Programming | Recitation Lead

Jan. 2024 – Dec. 2024

- Developed original teaching strategies, materials, and exercises for continued use in future semesters by 30+ TAs across 12 recitation sections attended by 800+ students; teach weekly recitations; host 6+ office hours per week.

Software Engineering Intern

Alpha Models Inc.

June 2022 – Aug. 2022

Alpharetta, GA

- Devised an algorithmic C++ approach to the Traveling Salesman Problem to plan freight railroad maintenance; developed Java simulations to model railroad yard operations and optimize carrier labor and fuel expenses.

PROJECTS

Breadboard Bakery | Python, OpenCV, Flask, React

Oct. 2024

- Built a web application to streamline debugging electronic circuit prototypes by generating schematic diagrams from photographs of breadboards.
- Implemented image processing techniques using OpenCV for contour, grid, and edge detection to identify electronic components, including wires and integrated circuits.
- Developed a custom graph data structure to model circuits from computer vision data, and designed a modified depth-first search algorithm to convert data into Boolean logic expressions.

TECHNICAL SKILLS

Languages: Java, C/C++, Python, SQL, Assembly, LaTeX, JavaScript, TypeScript, HTML, CSS

Developer Tools: Git, GitHub, Docker, VS Code, Visual Studio, IntelliJ, Linux, MySQL, Firebase, MATLAB, Mathematica, Tableau, JUnit, Agile

Computer Science: data structures, algorithms, object-oriented design, data analysis, computer architecture, networking, artificial intelligence

Mathematics: linear algebra, combinatorics, graph theory, probability theory, abstract algebra

LEADERSHIP & COMMUNITY INVOLVEMENT

Machine Shop Master Peer Instructor

The Hive Interdisciplinary Makerspace – Georgia Institute of Technology

May 2025 – Present

Atlanta, GA

- Supervise and improve safety and efficiency of machine shop; train peer instructors on wood- & metal-working machinery; design instructional materials and project blueprints; lead workshops to develop woodworking skills.