

# Jessica Liu

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## EDUCATION

<b>Georgia Institute of Technology</b> <i>Bachelor of Science in Computer Science, GPA: 4.00/4.00</i>	Atlanta, GA Aug. 2023 – May 2027
<b>Georgia Institute of Technology</b> <i>Bachelor of Science in Mathematics, GPA: 4.00/4.00</i>	Atlanta, GA Aug. 2023 – May 2027

## EXPERIENCE

<b>Software Engineering Intern</b> <i>Niantic Spatial</i> <ul style="list-style-type: none"><li>Niantic Augmented Reality SDK for Unity</li></ul>	May 2025 – Aug. 2025 Bellevue, WA
<b>Undergraduate Teaching Assistant</b> <i>College of Computing – Georgia Institute of Technology</i> CS 2110 – Computer Organization & Programming <ul style="list-style-type: none"><li>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.</li></ul> CS 1331 – Object-Oriented Programming   Recitation Lead <ul style="list-style-type: none"><li>Developed original teaching strategies, materials, and exercises used in recitations for continued use across future semesters; trained 30+ TAs to lead 12 recitation sections for 800+ students.</li><li>Teach weekly 50-student recitations, held 6+ office hours per week, graded homework and exams, monitored course discussion forum, designed and tested programming assignments and exams.</li></ul>	Jan. 2024 – Present Atlanta, GA Jan. 2025 – Present Jan. 2024 – Dec. 2024
<b>Software Engineering Intern</b> <i>Alpha Models Inc.</i> <ul style="list-style-type: none"><li>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.</li></ul>	June 2022 – Aug. 2022 Alpharetta, GA
<b>Lead Teaching Assistant — AP Computer Science</b> <i>Pennsylvania AP Online</i> <ul style="list-style-type: none"><li>Initiated and hosted daily virtual office hours; led monthly review sessions for 70+ students with original teaching materials and exercises; trained new TAs and directed a team of 20+ TAs.</li></ul>	Aug. 2020 – May. 2023 Kittanning, PA (remote)

## PROJECTS

<b>Breadboard Bakery</b>   <i>Python, OpenCV, Flask, React</i> <ul style="list-style-type: none"><li>Built a web application to streamline debugging electronic circuit prototypes by generating schematic diagrams from photographs of breadboards.</li><li>Implemented image processing techniques using OpenCV for contour, grid, and edge detection to identify electronic components, including wires and integrated circuits.</li><li>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.</li></ul>	Oct. 2024
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## TECHNICAL SKILLS

<b>Languages:</b>	Java, C/C++, Python, SQL, Assembly, LaTeX, JavaScript, TypeScript, HTML, CSS
<b>Developer Tools:</b>	Git, GitHub, Docker, VS Code, Visual Studio, IntelliJ, Linux, MySQL, Firebase, MATLAB, Mathematica, Tableau, JUnit, Agile
<b>Computer Science:</b>	data structures, algorithms, object-oriented design, data analysis, computer architecture, networking, artificial intelligence
<b>Mathematics:</b>	linear algebra, combinatorics, graph theory, probability theory, abstract algebra

## LEADERSHIP & COMMUNITY INVOLVEMENT

<b>Machine Shop Master Peer Instructor</b> <i>The Hive Interdisciplinary Makerspace – Georgia Institute of Technology</i> <ul style="list-style-type: none"><li>Supervise and improve safety and efficiency of machine shop; train peer instructors on wood- &amp; metal-working machinery; design instructional materials and project blueprints; lead workshops to develop woodworking skills.</li></ul>	May 2025 – Present Atlanta, GA
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