

Maika Hirata

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Education

Georgia Institute of Technology | Atlanta, GA

Bachelor of Science in Computer Engineering, GPA 3.34

August 2024 – Present

Expected Graduation, December 2026

The University of Georgia | Athens, GA

Transfer with 78 Credit Hours, GPA 3.92

August 2023 – May 2024

Skills

Programming: Java, Python, ROS, C, MIPS Assembly, JavaScript, CSS, HTML (CIW Site Development Associate), API integration, JSON

Hardware: Raspberry Pi, Arduino, Mbed, ESP32, CTR Electronics, FPGAs, VHDL, soldering, 3D printing, oscilloscope, logic analyzer

Software: Git, WordPress, KiCad, Quartus Prime, MATLAB and Simulink

Professional Organizations: Georgia Tech Women in Electrical and Computer Engineering, Japanese Student Association

Languages: Japanese (native), English (fluent)

Projects

Buzz Car | Georgia Institute of Technology Junior Design

August 2025 – December 2025

Group Leader

Four-member team design project to build a fully autonomous line-following car, following a product lifecycle management timeline.

- Iteratively tuned a PID controller using IR sensor feedback to control the two servo-controlled wheels on the car, achieving line-following with 90% operational reliability across repeated test trials.
- Designed and validated custom control PCBs for the LCD and audio subsystems, passing ERC/DRC checks in KiCad as well as performing post-fabrication functional testing through a circuit validation procedure and integration verification.
- Implemented PWM-based control and multithreading on an ESP32 for synchronized audio feedback while optimizing power usage, of less than 0.2 W per output, in a constrained embedded environment.

Electronic ARTrium | Georgia Institute of Technology Vertically Integrated Project Team

August 2024 – Present

Electro-Mechanical Team Member

Interdisciplinary, interactive electro-mechanical art exhibit involving sensors, sound, video, and mechatronics.

- Brainstormed and prototyped an Arduino-controlled mechatronic eye system that dynamically tracked varying player height through a pose detection camera, enhancing exhibit interactivity during the month-long exhibit.
- Integrated a server-to-Arduino lighting control network to synchronize multiple atmospheric LED elements across the exhibit, creating responsive visual cues that enriched visitor immersion.

Robodawg | The University of Georgia Robotics Club

August 2023 – May 2024

Computer Vision Team Member

Team-based club project (computer vision, walking, mechanical, and electrical sub teams) to develop a walking robot dog.

- Researched, programmed, and troubleshooted sensor-driven control software for obstacle and human detection using OpenCV A.I. body-tracking libraries on a Jetson Nano platform with a ZED camera.

Activities

FIRST Robotics Competition Team 1261 Robo Lions | Programming Lead

August 2019 – May 2023

- Mentored 20+ new members on the website and programming sub teams, on web development and Java respectively.
- Implemented closed-loop control in the form of PID, path planning, and AprilTag tracking to improve robot performance under real-time constraints, winning district event finalist three times and district event champion once.
- Presented the team's engineering design process over the season for the robot in detail to judges at competition, winning four awards related to consistent, reliable, high-performance autonomous robot operation as well as an innovative control system.

Girls Who Code/Code Ridge | Vice President

August 2019 – May 2023

- Researched local STEM events and contacted guest speakers each week to connect members to opportunities.
- Started up the first general CS club at the school with 25+ members, combining it with Girls Who Code to allow all students to learn how to code while maintaining a clear focus on the empowerment of girls in STEM.

CodeHers Collective | Web Development Content Specialist

May 2020 – August 2021

- Wrote and taught lessons on GitHub, Java, and web development to 150+ girls nationwide and worldwide over Zoom.
- Designed 2 mascots, to represent the organization on social media and improve organization recognizability.

Technology Student Association

August 2019 – May 2023

- Designed, built, and programmed a story-based, 4ft tall animatronic running on an Arduino and utilizing pneumatics and servo motors in a team of 3, winning 1st place and 3rd place at the state level and placed in top 10 at the national level.

- Built a website catered to a specific competition theme using HTML, CSS, and JS with a focus on user-friendliness and engagement in a team, placing in top 10 at the state level for 3 years consecutively.

Relevant Coursework

Intro to Object-Oriented Programming: Writing GUI programs with methods such as encapsulation, inheritance, polymorphism.

Data Structures and Algorithms: Data structures and algorithms in the context of object-oriented programming in Java.

Programming for Hardware/Software Systems: Developing software with complex execution and storage mechanisms of the ISA.

Digital System Design: Use of Boolean operations and combinational circuit techniques to design and simulate digital logic circuits.

Circuit Analysis: Solving linear circuits using principles of circuit design using linear components including time-dependent circuits.

Digital Hardware Design Lab: Designing and testing resistive, capacitive, and inductive circuits using CAD tools.

Computer Communications: Understanding networking concepts works through a basic layered model and their protocols.

Arch, Systems, Concurrency & Energy in Computation: Principles of modern processor design core, memory hierarchy, and I/O.

Intro to Signal Processing: Discrete-time processing with sampling, filters, and Fourier analysis as well as MATLAB programming.

Feedback Control Systems: Analyzing control applications signals and applying the principles of feedback control.

ECE Design Fundamentals: Applying system-level design, Agile product management, CI/CD, prototyping, and testing.

Autonomous Mobile Robotics: Interfacing with a robot with ROS using state estimation, control, and planning. In-progress.

Control System Design: Designing and implementing control algorithms on microcontrollers using state-space methods. In-progress.