

Anderson Gao

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Education

Georgia Institute of Technology | Atlanta, GA

December 2027

Bachelor of Science in Electrical Engineering, **GPA 4.00**

- Minor in Physics, Eta Kappa Nu, IEEE
- Relevant Coursework: Signal Processing, AC/DC Circuit Analysis, Digital System Design, Object-Oriented Programming

Technical Skills

Programming: Python, Java, MATLAB, C/C++, Assembly, TensorFlow, NumPy, Scikit-learn, OpenCV

Platforms: Linux Shell (Bash), Git, GitHub

Software: Altium, KiCAD, NI Multisim (SPICE), VS Code, SOLIDWORKS, AutoCAD, Revit

Hardware: Raspberry Pi, Arduino, ESP32, STM32, nRF Devkit

Tools: Oscilloscope, Logic Analyzer, Function Generator, DMM, Soldering

Skills: Schematics, PCB design, analog/digital circuitry, embedded systems, I2C/SPI/UART, DSP, Machine Learning

Work Experience

Low Frequency Radio Lab | Atlanta, GA

Jul 2025 – Present

Researcher

Research lab investigating ELF/VLF radio to probe the ionosphere, analyze lightning signals, and design antenna receivers.

- Develop **Convolutional Neural Network** with **95% accuracy** that parses through electromagnetic waveform data from lightning strikes and classifies the events as Intracloud or Cloud-to-Ground lightning.
- Execute data-processing pipeline that gathers lightning data from a network containing **100,000,000+ annual strikes**.
- Improve existing classification methods by 5% through training ML model on in-house receiver data.
- Author graduate-level research paper using novel methodologies obtained from this project.
- Advance atmospheric science research by increasing understanding of global lightning patterns and improving safety.

Mechatronics and Motivation | Atlanta, GA

Aug 2025 – Present

Haptic Hardware Engineer

Design team focusing on developing cutting-edge wearable haptics for people with mobility and learning differences.

- Design wearable device that achieved **30% increase** in performance for students with autism in math education.
- Implement firmware onto devkit board that activates an actuator to induce vibrating sensation via Bluetooth protocol.
- Prototype two-layer **flexible PCB** in Altium that integrates devkit board functions to optimize device ergonomics.
- Create outer casing in SOLIDWORKS to effectively hold all electronic components.

Texavie | Vancouver, Canada

Aug 2023 – Sep 2023

Electrical Engineering Intern

Wearable devices startup focusing on smart apparel that gathers movement data for health and fitness.

- Designed single-layer flexible PCB for a smart-glove prototype with real-time feedback to performance dashboard.
- Created detailed **schematic capture** in KiCAD to present in department meetings.
- Collaborated with engineers to evaluate current customer demand for wearables and the associated common faults.

Technical Projects

Blackjack Card Counting Glasses

Aug 2025 – Present

Wearable glasses using computer vision and Raspberry Pi for real-time card recognition and card counting.

- Implement real-time card-detection algorithm using **OpenCV** to identify cards and suits in various lighting conditions.
- Debug errors using lab tools (oscilloscope, logic analyzer, DMM) to conduct system-level testing of components.
- Design low-power hardware integration between Raspberry Pi, camera module, and display output to optimize performance for wearable use.

Leadership

World Cube Association

Jan 2023 – Present

Competition Organizer

- Lead a cross-functional team of delegates to organize local Rubik's Cube competitions with over **400+ attendees**.
- Generated **\$5,000+** so far in revenue from event registration fees through online marketing.
- Pioneered a novel delegation system allowing volunteer roles to be equitably allocated to participants on competition day resulting in **15% increase** in volunteer engagement.