

Luke Matheny

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Objective

Eager Electrical Engineering major with a knack for voluntarily launching projects, showcasing a drive that extends beyond the classroom. Versatile skills in prototyping and design (electronics, programming, CAD – fast-learner). Communication skills have drastically increased since becoming the leader of Georgia Tech's Energy Club, managing four teams of student engineers and event organizers. Seeking an internship in electrical engineering for Summer 2024.

Education

Georgia Institute of Technology | Atlanta, GA

August 2021 – December 2025 (Expected)

Bachelor of Science in Electrical Engineering, GPA 3.88

Minor in Materials Science & Engineering

Skills

Engineering: PCB design (KiCad), Embedded systems, STM & Arduino microcontrollers, Solidworks + AutoCAD, 3D Printing

Programming: Python, C, STM32CubeIDE (Eclipse), MATLAB, Java, Visual Basic for Applications

Concepts: Semiconductor device fundamentals (Material property courses), Data analysis, DSP

Projects

Stationary Bike Battery Charger | Energy Club Team Lead/Founder (14 members)

February 2023 – Present

Interactive Georgia Tech campus fixture where students will be able to charge devices and view its electronics and structure.

- Interviewed students who would best fit our team, delegating tasks and setting the project vision
- Created schematics for our power electronics and sourced electronic parts
- Led design sessions for the pedaling-to-generation structure, calculating the proper gear ratio for powering electronics

Portable Solar Array | Energy Club Team Lead/Founder (6 members)

February 2023 – Present

Collapsible array of four 100-W solar panels that functions as a demo unit for the club across campus.

- Led design sessions for the mechanical subsystems, arranging meetings to ensure completion before the org fair
- Used drawings and CAD to propel the vision for the project, then sourced parts with the team to build it

Electronic Slide Puzzle

Summer 2022/2023

Independent project replicating a 15-puzzle computer program into a handheld device with buttons.

- Used STM32CubeIDE programming software, picking up the C language to make the code compatible
- Integrated a digital display on a custom PCB using KiCad, mapping connections using part datasheets

Leadership

Energy Club | President and Engineering Project Lead

January 2023 – Present

- Overhauled the event-only structure of the club to introduce 2 new engineering projects
- Recruited & onboarded 20 student engineers, setting up a robust organizational structure to work within

Southeastern Energy Conference | Planning/Oversight

December 2021 – April 2023

- Established the standard marketing and speaker outreach directives for future organizers
- Promoted the event to >150 attendees and organized the research poster session both years

Experience

Hickory Business Furniture | Hickory, NC

May – August 2023

Manufacturing Engineering Intern

- Developed and shipped the branch's internal purchase database
- Built a prototype for Andon lights to be triggered with computer inputs via a custom microcontroller setup, saving \$360 per light against brand-name ethernet-connected lights

McDowell Lab, Georgia Tech | Atlanta, GA

May – July 2022

Full-time Student Research Intern (Battery Lab)

- Analyzed temperature trends in Li-ion cells using Python and Excel
- Designed Arduino temperature data collection circuit for battery cycling tests with custom 3D-printed support structure
- Conducted extensive testing/characterization of materials to determine optimal use in batteries