Vibhor Gupta

11135 Thames Lane Johns Creek, GA 30024 | 470-301-3588 | vgupta434@gatech.edu | U.S. Citizen

Objective

Georgia Tech Computer Engineering student with hands-on experience in BIOS/UEFI tooling, semiconductor device characterization, and embedded sensor systems. Skilled in Python automation and hardware-software debugging, with a focus on building reliable, testable systems. **Seeking a Summer 2027 internship in silicon validation, design verification, or embedded systems.**

Education

Georgia Institute of Technology | Atlanta, GA *August 2026 – Present*
Bachelor of Science in Computer Engineering, GPA 3.90 Expected Graduation, May 2030

Skills

Languages: Python; familiarity with C++, Java, R, x86 assembly
Hardware/Firmware: Raspberry Pi, Arduino, ARM mbed microcontroller, FPGAs, ESP microcontrollers, UEFI/BIOS
Currently learning: C, SystemVerilog, digital logic, circuit simulation, VLSI fundamentals

Experience

Center for Compound Semiconductors | Atlanta, GA *Aug 2026 – Present*
Undergraduate Research

- *Characterize ultraviolet avalanche photodiodes (APDs) using a manual probe station and Keithley 4200, performing reverse-bias current-voltage (I-V) sweeps to quantify dark leakage current and identify avalanche breakdown voltage.*
- *Align APD samples and position a micromanipulator probe under optical microscopy in a light-tight enclosure, suppressing photocurrent and improving repeatability.*
- *Analyze I-V curves in Python across devices and test runs, extract leakage-current and breakdown-voltage characteristics, investigate measurement variation, and document results for the research team.*

American Megatrends Inc. (AMI) | Duluth, GA *May – August 2025*
BIOS Firmware Development Team

- *Built Python utilities for BIOS engineers, including Globally Unique Identifier (GUID) format conversion and GUID search-and-replacement tools*
- *Led the implementation of a Python Firmware Interface Table (FIT) decoder that parsed FIT entries and displayed decoded fields for analysis*
- *Worked with firmware engineers to test the utilities and validate outputs in low-level environments*

Projects

Plantopia *Sept 2024 – Present*
Co-Founder & Product Engineer
Team-based agricultural technology project developing a handheld sensing system that measures soil nutrients and environmental conditions, then translates the collected data into clear, actionable guidance for farmers and growers.

- *Co-developed a handheld soil-analysis system integrating NPK, pH, moisture, temperature, and humidity sensors with a microcontroller and Flask-based interface; Plantopia won the $10,000 STEMUp Grand Prize*
- *Tested prototype variants in field settings and gathered farmer feedback to refine sensor integration, hardware design, and presentation of readings*
- *Implemented data-processing logic that converted raw sensor readings into user-facing soil-condition summaries in the companion app*

Tegen.us *Sept 2024 – Present*
Co-Founder & Product Engineer
Team-based, local-first production-test planning platform that converts embedded-hardware design files and requirements into reviewable test procedures, fixture connection maps, coverage gaps, and engineering risks.

- *Designing a local-first tool that converts KiCad schematics, BOMs, netlists, and requirements into reviewable manufacturing test plans and fixture connection maps.*
- *Interviewed embedded-hardware teams and analyzed production-test workflows to identify test-coverage gaps, access constraints, and automation opportunities.*

Relevant Coursework

Digital System Design: Design and implementation of digital systems using combinational and sequential logic, finite-state machines, logic synthesis, CAD tools, assembly-language programming, and a team-based hardware design project.