Chinmay Bandapalli

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EDUCATION

Georgia Institute of Technology   Atlanta, GA
Bachelor of Science in Electrical Engineering   *May 2027*
- **GPA: 4.0**

RELEVANT COURSEWORK

- Digital Design
- Digital Design Lab
- HW/SW Programming
- Circuit Analysis
- Differential Equations

EXPERIENCE

Flavin Neuromachines Laboratory @ Georgia Tech   Dec. 2024 – Present
Undergraduate Research Assistant   *Atlanta, GA*
- Developing a platform for the BME 688/690 sensor using **C** and **Altium**, eventually integrating the sensor's capabilties into wearable electronics for audiences sensitive to certain environmental factors (ex: VOCs).
- Exploring ways to train the BME 688/690 using AI machine learning to consistently record and analyze accurate readings of individual gas compositions (Goal: 90% accuracy).
- Developing skills in **C**, **Altium**, firmware development (nRF MDK), PCB manufacturing, and **electronic test equipment (troubleshooting)**.

Scintillating Bubble Chamber @ Northwestern   June 2023 – Aug. 2023
Research Assistant   *Batavia, IL*
- Assembled multiple large coaxial cables from scratch using **crimping tools** and **soldering** for the functionality of an LED panel and vacuum chamber.
- Analyzed and tuned 8 onboard noise detectors using an **oscilloscope** (**50% increase** in sensitivity) to ensure proper noise detection.
- Evaluated and documented the functionality of 100+ sensors (thermal, position, capacitive, etc.) and electrical components using a **multimeter** and **MS Excel**.
- Repaired dozens of broken/loose sockets in the chamber's ports and buses using **crimping tools** for proper electrical contact with its peripherals.

PROJECTS/EXTRACURRICULAR

Marine Robotics Group | *KiCAD, Power Electronics*   Sept. 2024 – Present
- Constructed a functional electrical block schematic using **KiCAD** for the half-scale autonomous marine robot for the Microtransat competition. Currently prototyping on breadboards before manufacturing a permanent PCB.
- Designed a light tower system that relays information about the robot's status/ failures that will later be programmed through firmware.
- Developing skills in PCB Design (**KiCAD**), power electronics, firmware development (ESP32), and **electronic test equipment**.

Mechanical Keyboard PCB | *KiCAD, C*   Mar. 2025 – Present
- Designing a mechanical keyboard (Cherry MX style) using **KiCAD/Altium** that goes beyond the capabilities of an average keyboard with the inclusion of peripherals such as an interactive LCD screen for an enhanced user experience.
- Other goals of this project include improving knowledge of **PCB manufacturing**, constructing BOMs, and building a firmware environment from scratch using **C**.

SKILLS

Languages: C, Python, RISC-V, VHDL
Software: KiCAD, Autodesk Inventor, VS Code, NI Multisim, Quartus (Intel/Altera), FPGA (DE-10),
Hardware Tools: Oscilloscopes, Logic Analyzers, Multimeters, Circuit Test Equipment, Soldering, Crimping
General: Microsoft Office, Slack, Teams