Saksham Bansal

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Objective

Electrical Engineering student specializing in Robotics & Embedded Systems, seeking internships in IoT, automation, or circuit design to apply hands-on experience in hardware-software integration, PCB design, and real-time systems.

Education

Georgia Institute of Technology | Atlanta, GA *Expected Graduation: Dec 2026*
Bachelor of Science in Electrical Engineering (Concentration: Robotics & Autonomous Systems, Circuit Technology)

Experience

Georgia Tech VIP Program | Electronic Atrium *Jan 2025 – Present*
Undergraduate Research Assistant

- Integrated Arduino-based systems with servers via TCP/IP, optimizing real-time communication for mechatronic applications.
- Designed and improved hardware-software interfaces, enhancing system efficiency.

HFCL Limited | Gurgaon, India *June – August 2022*
Intern – Product Development

- Assisted in designing IEEE 802.3af-compliant POE injector modules with overload current, reverse polarity, and short-circuit protection, ensuring safe and efficient power delivery.
- Contributed to semiconductor selection, PCB layout, and circuit design, improving product reliability and compliance with industry standards.

Capgemini India | Gurgaon, India *October – November 2021*
Intern – Engineering & R&D

- Supported an IoT project "Location Based Service", utilizing GPS sensors and IoT devices to monitor assets within facilities and across supply chains.
- Assisted in sensor positioning and network optimization for improved indoor tracking accuracy, enhancing operational efficiency.

Projects

SoilHawk — *Sponsor Winner at ImpactHack* *November 2023*

- Boosted irrigation efficiency by 60% with an Arduino-based system using soil moisture, humidity, and pH sensors for real-time monitoring.
- Designed an AI drone with hyper-spectral sensors, reducing crop loss by 15% through early pest detection.

Automated Timer Tap *April 2020*

- Developed "Dripmise," an IoT solution saving ~96,000 liters of water/month in a timber facility by reducing wastage by 80% during handwashing.
- Led project from concept to deployment, earning recognition from the Ministry of Water Resources, India.

Relevant Coursework

Signal Processing: Sampling, FIR/IIR filters, Fourier analysis, Z-Transform, MATLAB, biomedical applications.
Digital System Design: Boolean logic, digital circuits, finite state machines, assembly programming.
Programming & Software Systems: C, MIPS, memory management, ARM microcontroller, software optimization.
Digital Design Lab: Combinational logic, VHDL, FPGA, state machines, computer system implementation.
Computer Networks: TCP/UDP socket programming, routing protocols (OSPF, BGP), SDN, network security.

Skills

Technical: Raspberry Pi, Arduino, Python, C, SQL, HTML, Adobe, Microsoft Suite, Google Suite, Wireshark
Soft Skills: Leadership, Communication, Problem- Solving, Time Management
Languages: English (fluent), Hindi (fluent), French (beginner)

Awards

Global Youth Award for Environmental Leadership: Recognized for dedication to sustainability and environmental stewardship.
Sponsor Winner Hacklytics Hackathon: Developed TraverGO, an AI-powered chatbot leveraging Sentiment Analysis, Neural Search, and Traversaal AI API to enhance hotel recommendations and travel assistance.

Leadership

ECE Student Advisory Board | Atlanta, GA *August 2024 – Present*
Board Member

- Act as the liaison between ECE students and the department, advocating for their needs.
- Organize events to support student well-being, academics, and financial accessibility.

GT IEEE | Atlanta, GA *May 2024 – Present*
Director of Finance

- Oversee a ~$50K budget, ensuring effective allocation and financial planning for IEEE events, competitions, and initiatives.
- Contribute to the IEEE Robotics team's success, helping secure a spot in the VEX U World Championship through strategic support and collaboration.