

# Shayan (Shaan) Mukherjee

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## Objective

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Curious and motivated Computer Engineering major specializing in Computer Hardware / Emerging Architectures and Devices with experience in fast-paced, interdisciplinary robotics teams. Seeking hardware engineering internship working on **embedded systems** or **chip digital design** for Summer 2025.

## Education

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### Georgia Institute of Technology | Atlanta, GA

Bachelor of Science in Computer Engineering, Major GPA: 3.68/4.0

Expected Graduation May 2026

## Skills

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**Programming:** Java (proficient), Python (proficient), C++ (intermediate), C (beginner)

**Hardware:** Raspberry Pi, Arduino, Oscilloscope, Breadboard, Power Electronics, Waveform Generator, 3D Printer

**Softwares:** NI LabVIEW, SolidWorks, EagleCAD, GitHub, MATLAB, KiCAD, LTspice, Office Suite, Altium, Fusion 360

## Experience

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### Georgia Tech Solar Racing

Battery Management Systems (BMS) Team Member

August 2023 - Present

- Perform and design safety protocols for custom-made 18s64p Li-ion battery pack for Solar Powered Vehicle
- Develop BMS system firmware using TIVA C-series MCU achieving functions outlined in the operation diagram

### The HIVE (ECE GaTech) Makerspace

Peer Instructor (PI)

May 2024 - Present

- Consult 40+ end-users weekly on engineering projects: circuit prototypes, integration, and debugging
- Trained on benchtop tools (**Oscilloscope**, **Power Supplies**, **Soldering**, **Waveform Generator**), PCB design using **ProtoLaser**, laser cutters, machine shop tools, and **3D printers** (Bambu, Ultimaker, Stratasys)

### Vex Robotics - Team 2647: "Endgame"

Team Captain and Lead Designer

May 2019 - May 2023

- Enhanced robot's autonomous functions by integrating sensors (gyro, LiDAR, pressure) through hardware design
- Led Team 2647X to rank #1 in Arizona, and #1 in the world in the Skills Challenge in 2021 - 2022 season

### Podar International School (PIS) Robotics Club

Founder and Head Mentor

May 2021 - September 2022

- Started robotics club to establish project-based learning at a traditional, exam-oriented school in Mumbai
- Developed curriculum and taught biweekly online classes of 25-30 students in robotics, physics, and math

## Projects

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### Stationary Bike Energy Charging Station

Hardware/Electrical Team Member

August 2023 - Present

- Collaborating with team to build a stationary bike using supercapacitors and power electronics to charge devices
- Developed circuitry for voltage-mode control for control algorithms for efficient USB Power Delivery
- Integrated SEPIC (Single-Ended Primary Inductor Converter) to regulate voltage of power generated by a motor

## Relevant Coursework

(\* indicates current courses)

**CmpE:** Digital System Design, Digital Design Lab\*, Object Oriented Programming\*, Circuit Analysis\*, Programming HW/SW Systems\*

**Mathematics:** Linear Algebra, Differential Calculus, Integral Calculus, Multivariable Calculus, Differential Equations, Discrete Math\*