Sachin Patel

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Education

Georgia Institute of Technology — Atlanta, GA
Bachelor of Science in Electrical Engineering, GPA: 3.75, Dean's List — *Jan. 2025 – May 2027*

Northeastern University — Boston, MA
Bachelor of Science in Electrical Engineering, GPA: 4.0, Dean's List — *Aug. 2023 – Dec. 2024*

Experience

Hardware Engineering Intern — May 2025 – Aug 2025
Georgia Tech Research Institute — *Atlanta, GA*

- Performed component layout and routing and design rule check for a vehicle payload power management PCB
- Built out physical PCB by placing and soldering components incrementally to ensure functionality of all 5 PCB modules
- Debugged circuit board modules and components with visual inspections, continuity tests, oscilloscope measurements, and datasheet information
- Utilized SSH protocol to access a Raspberry Pi computer to in order to perform Bash Shell scripting to detect devices over USB and I2C

Physical Design Team Member — Jan 2025 – Present
Silicon Jackets — *Atlanta, GA*

- Helped calculate floor plan measurements to ensure 60% utilization on RISC-V-based CPU taped out by Silicon Jackets
- Created Python scripts to comb through 500 slack times to find possible negative slack times and the smallest positive slack times
- Wrote and verified a module to 98% accuracy with System Verilog to calculate the greatest common denominator of two positive numbers

Undergraduate Research Assistant — January 2025 – May 2025
Ultrasound Imaging and Therapeutics Lab at Georgia Tech — *Atlanta, GA*

- Learned fundamentals of Ultrasound technology and theory and Photoacoustic Imaging
- Hosted a presentation about Photoacoustic Spectroscopy to 3 PhD students and 3 undergraduate students
- Created 3D model capable of holding Ultrasound transducer and lasers for Photoacoustic Imaging tests using Solidworks
- Utilized Matlab and transducer software packages to capture Ultrasound transducer data and process the data to reduce Ultrasound artifact brightness by 50%

Projects

Remote Ligh Switch Flipper | *Arduino, Altium, C++, SolidWorks, 3D Printing* — June 2025 – Present

- Made a device that uses a remote to flip a light switch on and off so that a light switch can turn on and off from afar
- Accomplished with the use of Arduino Uno circuit boards, radio modules, 3D-printed parts, and servo motors
- Utilized the ATMega-328P microcontroller sleep modes using assembly language to bring battery life from 10 hours to 10 days
- Used SolidWorks to create a custom servo motor arm and wall-mounted servo motor holder

Maze-Traveling Robot | *Arduino, SolidWorks* — September 2023 – December 2023

- Made a robot using an Arduino, an Ultrasonic Sensor, 3D-printed Chassis, and two DC motors
- Utilized the ultrasonic sensor to allow the Arduino to sense incoming obstacles and avoid them
- Programmed the robot to be able to go in a straight line, navigate through a simple two turn maze, and ultimately navigate a maze without hard-coded movements

Technical Skills

Design Tools: Altium, Arduino IDE, LTSpice, SolidWorks, VS Code
Software & Languages: C++, Java, Linux Bash Shell Scripting, Matlab, Python
Equipment Expertise: Oscilloscope, Digital Multimeter, Waveform Generator, DC Power Supply, Soldering Iron