Sameen Ahmad

320 Memorial Drive
Cambridge, MA 02139

972-901-0135
sameen_a@mit.edu

10 Lochleven
Richardson, TX 75082

Education

Massachusetts Institute of Technology, Cambridge, MA **Expected Graduation: May 2027**

- Candidate for B.S in Electrical Engineering & CS with a minor in Mechanical Engineering
- Coursework: Intro to CS in Python, Discrete Math, Intro to Algorithms, Mechanics and Materials, Dynamics and Control I, Circuits and Electronics, Robotics Science and Systems, Mobile Autonomous Systems Lab
- GPA: 4.6/5.0

Brighter Horizons Academy, Dallas, TX **May 2023**

- Valedictorian, GPA: 4.31, SAT: 1570

Professional Experience

Software Engineer Intern, Irving, TX **June - August 2024**
Sensori Robotics

- Developed tools to automate image annotations (increasing efficiency by **92%**) and performed **R&D** for generic **obstacle detection** using **MiDaS**, **Florence-2**, and **Grounding DINO**; integrated models into robot
- **Soldered** control boards, interpreted schematics, and tested firmware on MCUs using an **oscilloscope**
- Collected **7,500+** images and trained segmentation models using **YOLO** and **Segment Anything Model**

Undergraduate Researcher, Cambridge, MA **January - September 2024**
MIT Biomechatronics Lab

- Prototyped the development of a haptic device that provides pressure feedback to lower limb prostheses
- Designed and 3D printed molds using **OnShape**; fabricated soft robotics actuators using silicone
- Assembled and troubleshooted electronics (op-amps, FSR); developed **data collection** scripts in **Python** and **C++**

Undergraduate Researcher, Cambridge, MA **September 2024 - Present**
MIT Improbable AI Lab

- Assisting the development of a hand exoskeleton to gather manipulation data to train robotic actuators
- Using **OnShape** to modify fingertips and embed an endoscopic camera for tactile feedback while grasping objects
- Assembled improved thumb model to allow for a wider range of motion

Extracurriculars

WORMS (Walking Oligomeric Robotic Mobility System), Hardware Member **September 2024 - Present**

- Designing and simulating a **4 DOF** robot leg using **Drake** and **ROS2**, projected to manufacture in the spring

Arcturus (Autonomous Robotics Team), Autonomy Member **September 2024 - Present**

- Developing a path planning algorithm in **A*** and simulating trajectories in **RVIZ** to compete in RoboBoat 2025

MIT RoboTeam, MicroMouse Lead **September 2024 - Present**

- Leading the electrical development of a robotic mouse to compete in the MicroMouse APEC competition 2025

MIT Motorsports, Aero Mounting Member **September 2023 - May 2024**

- Performed hand calculations and designed rear wing mounting tabs and goose neck using **Siemens NX**

Projects

Quadcopter: Betaflight, 3D Printing, Soldering
Myoeletric Bionic Arm: 3D Printing, C++, Soldering, KiCAD (PCB Design), Arduino
Autonomous Race Car: ROS2, Python, C++, OpenCV, Docker, Monte Carlo Localization, Path Planning, ML
Personal Website: HTML, JavaScript, Java, CSS, Flask
Electric Skateboard: Soldering, Vertical Mill, Bandsaw, Circuitry
Autonomous MASLAB Robot: ROS2, Python, C++, Laser Cutting, Soldering, Onshape, OpenCV

Skills

Computer: Python, C++, Java, Flask, SQL, ROS2, OpenCV, HTML, OnShape, Arduino, PCB Design, ML, Drake
Machine Shop: TIG Welding, 3D Printing, Drill Press, Bandsaw, Belt Sander, Laser Cutter, Soldering, Oscilloscope
Project Management: Project Libre, Trello, Excel, PowerPoint