

ABAS MOHAMMED

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Education

Georgia Institute of Technology

Expected May 2028

B.S. Mechanical Engineering, Concentration in Automation and Robotic Systems

Atlanta, GA

- Current Coursework: Dynamics, Deformable Bodies, Fluid Mechanics, Creative Decisions and Design (ME 2110).

Georgia State University Perimeter College

Jan. 2024 – May 2026

A.S. Engineering, GPA: 3.86/4.00

Atlanta, GA

- Awards: President's List (Spring 2024 – Spring 2025); Statics and Physics II Student of the Semester.

Technical Skills

CAD & Design: SolidWorks, Autodesk Inventor, AutoCAD, Fusion 360, CATIA

Mechanical: Engineering Drawings, GD&T, Design for Manufacturing, Tolerance Analysis, Statics and Dynamics

Engineering & Prototyping: 3D Printing, Rapid Prototyping, Arduino, ESP32, Raspberry Pi, Breadboarding, Soldering

Programming: Python, MATLAB

Certifications: Certified SolidWorks Associate (CSWA); AI for Design and Optimization (University of Michigan)

Experience

Undergraduate Researcher – Whole-Body Tactile Navigation for Humanoid Robots

Aug. 2026 – Present

Georgia Tech Agile Locomotion and Manipulation Lab (VIP)

Atlanta, GA

- Develop tactile navigation methods for humanoid robots in vision-degraded environments (darkness, smoke, sensor blackout), targeting a simulation-to-hardware demonstration.
- Build the simulation test cases used to compare contact-based perception and whole-body tactile sensing methods ahead of hardware trials.

Academic Tutor – Engineering Graphics I & II

Jul. 2024 – Apr. 2026

Georgia State University Perimeter College

Atlanta, GA

- Tutored 60+ engineering students across four semesters in parametric CAD modeling, dimensioning and tolerancing, and technical drawing standards using Autodesk Inventor and AutoCAD.

Projects

HyTech Racing – Formula SAE Electric

Aug. 2026 – Present

Chassis Subteam, HT11

Georgia Institute of Technology

- Selected to the chassis subteam for HT11, the team's first carbon fiber monocoque, replacing the steel tube frame of prior cars.
- Training in composite layup, coupon testing, chassis CAD, and structural hand-calculations ahead of component ownership on the 2027 car; shadowing the Mechanical Controls subteam on autonomous driving.

Autonomous Object-Finding Mobile Robot

May 2026 – Present

Independent Project

Atlanta, GA

- Designing a two-wheel differential-drive robot in SolidWorks that locates a commanded target, navigates to it while avoiding obstacles, and stops at a set standoff distance.
- Integrating drivetrain, power, sensor, and camera-based recognition subsystems on a Raspberry Pi and ESP32 architecture; 5 custom 3D-printed components designed for assembly and serviceability. Tools: SolidWorks, Python, computer vision, Arduino.

Fabric Fingerprint – Textile Sourcing Search Tool

Sep. 2025 – Nov. 2025

Finalist, Perimeter College Innovation Challenge

Atlanta, GA

- Built a prototype matching plain-language descriptions to fabric types, improving keyword-to-fabric matching consistency by 20% and cutting average material-discovery time to under 30 seconds per query.

Leadership

Co-Founder, Us for Us Foundation

Mar. 2023 – Present

Student-Led Education Nonprofit

Addis Ababa, Ethiopia

- Co-founded a student-led initiative that raised \$2,800 for books at two Ethiopian schools, supporting 45 students and renovating two classrooms.
- Leading a 2026 campaign targeting \$10,000 for educational materials for 300+ students and 10 communal computers at Burka Harbu Special Secondary School.

President, Clarkston Math Club

Aug. 2025 – Apr. 2026

Georgia State University Perimeter College

Atlanta, GA

- Planned AMATYC exam prep workshops and weekly study sessions, co-led a cross-club coding competition, grew membership and event participation by 20%, which directly led to the club's annual budget doubling.
- Organized a Delta TechOps facility visit for 34 students, exposing them to aircraft maintenance and aviation engineering careers.

Organizations: National Society of Black Engineers (NSBE); ColorStack; Phi Theta Kappa Honor Society