

SYED MUSTAFA ALI

Houston, TX | 281-635-7282 | Mustafa.s.ali2006@gmail.com | linkedin.com/in/mustafa25

PROFESSIONAL SUMMARY

Mechanical engineering student with experience in SolidWorks, Fusion 360, mechanism design, and hands-on robotic assembly. Mechanical team lead developing a high-altitude sampling mechanism and 2U CubeSat hardware. Wrote code and assembled the drive system and candy-release mechanism for a remote-controlled robot used in a classroom activity. Seeking a summer 2027 internship in mechanical design, manufacturing, or automation.

EDUCATION

University of Houston

Bachelor of Science in Mechanical Engineering

Relevant Coursework: Physics I and II; General Chemistry I and II; Computing and Problem Solving for Engineers

May 2029

Houston, TX

ENGINEERING PROJECTS

CubeSat and Mechanical Team Lead

Fall 2025 - Present

Undergraduate Student Instrumentation Project

- Redesigned a servo-actuated inlet cap in SolidWorks, replacing an unreliable hinged linkage with a slotted mechanism intended to provide 10 cm of travel for a microorganism-sampling payload targeting 30,000 ft.
- Developed a spring-retention hook concept in CAD and assembled the sampling payload for a planned balloon mission.
- Developing a 2U CubeSat frame and solar-panel and antenna deployment mechanisms; coordinate CAD support with science teams as their experiment designs develop.

Robot Programming and Mechanical Assembly

December 2023

Remote-Controlled Candy-Dispensing Deer | Team Project

- Wrote the robot code, configured remote control, assembled the wheels and drive frame, and made the candy-release mechanism for a robot brought to a special education classroom.
- Worked with teammates who developed the petting sensor and decorative body; the completed robot dispensed candy and played music when petted.

Founder and Concept Designer

August 2024 - March 2025

Stainless Steel Water Storage System

- Created a CAD concept for a 316 stainless steel water-storage system intended to fit available space during home construction; surveyed three construction companies about customer needs and potential applications.

Integration Manager

June 2023 - August 2023

NASA High School Aerospace Scholars | Mars Rover Design Concept

- Led eight team members developing a rover concept for two astronauts and a 30-day mission; translated NASA requirements into component-level assignments and coordinated design responsibilities.

LEADERSHIP

Newsletter Committee Chair and Ignite Intern

American Society of Mechanical Engineers | University of Houston

- Produce biweekly chapter updates through event photography, member engagement, and achievement spotlights; shadow former officers to learn chapter operations and student leadership.

Mentor

August 2024 - Present

NASA High School Aerospace Scholar Program

- Mentor 12 high school students across three aerospace projects, providing weekly guidance on STEM concepts and project development.

WORK EXPERIENCE

Sales Operations Manager

November 2023 - August 2025

Sunrise Super Stop

Houston, TX

- Managed inventory replenishment and product organization, set item prices, and supported daily store operations.

SKILLS

CAD: SolidWorks, Fusion 360, mechanism design, CAD modeling

Analysis and Documentation: MATLAB, Microsoft Excel, technical documentation

Hands On: 3D printing, rapid prototyping, robotic assembly, power tools, wooden concrete forms