

Daanish Islam

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OBJECTIVE

Senior Mechanical Engineering student concentrating in Automation and Robotics, graduating May 2026, seeking a Mechanical Engineering role to apply mechanical design, testing, and automation experience toward improving production efficiency

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY | Atlanta, GA
Bachelor of Science in Mechanical Engineering

Aug 2022 – May 2026 (Expected)
GPA: 3.62 (Dean's List Recipient)

Relevant Coursework: Thermodynamics, Fluid Mechanics, System Dynamics, Heat Transfer, Machine Design, Robotics, Statistics, Statics & Dynamics, Mechanics of Deformable Bodies, Material Science, Interactive CAD & CAE (NX), Circuits

EXPERIENCE

Redwood Materials Inc. | Reno, NV | *Mechanical Engineering Intern*

May 2025 – Aug 2025

- Designed mechanical assemblies including a bed sensor hardware mount, industrial dust collection system, and high-load support cart in SolidWorks and validated structural integrity via FEA (ANSYS); incorporated sheet metal and weldments, applied GD&T, and supported hands-on assembly for continuous manufacturing use under high-load conditions
- Programmed a FANUC robot via teach pendant for HVOF thermal spray coating on flanges and plates; used FANUC ROBOGUIDE to simulate and validate spray paths and parameters, improving coating cycle time by ~12%
- Conducted metallurgy-based testing to verify coating quality, including microhardness, surface roughness, tensile, and adhesion tests, ensuring coating thickness of 200–400 microns and proper material hardness; improved testing efficiency by reducing process time from **9 to 7 hours**
- Created detailed 2D part and assembly drawings, authored technical documents, Standard Work Instructions (SWIs) and Standard Operating Procedures (SOPs), and developed safety manuals to support efficient and safe operations

Bangladesh Steel Re-Rolling Mills Limited | Bangladesh | *Manufacturing Engineering Intern*

May 2024 – July 2024

Leading steel manufacturing company producing high-strength rebar, angles, and channels for construction and infrastructure

- Conducted troubleshooting and root cause analysis on recurring failures in hydraulic, pneumatic, and cooling systems, identifying valve wear and pressure inconsistencies, contributing to a **21%** reduction in unplanned downtime
- Designed and fabricated replacement valves, jigs, and lifting fixtures in SolidWorks; conducted CFD analysis to optimize flow performance, improve maintenance accessibility, and reduce equipment servicing time
- Analyzed procurement and material flow delays by tracking order processing and delivery timelines under ISO 9001 procedures, identifying bottlenecks in vendor coordination that reduced equipment replacement lead time by **3-5 days**

The Water – Energy Research Lab | Atlanta, GA | *Research Assistant, Georgia Tech*

Jan 2025 – April 2025

- Developed and 3D printed detailed 3D CAD models using SolidWorks to design mass exchanger components, integrated humidity and pressure sensors, control valves, motor, and water pump, and used Sensirion for data analysis
- Designed and tested LCST desalination loop mass exchanger components, building two configurations to evaluate desalination, mass exchange, and leakage control, achieving a relative humidity increase from **25.7% to 96.7%**

Tutoring and Academic Support | Atlanta, GA | *Tutor, Georgia Tech*

Aug 2023 - Present

- Tutored Math, Physics, MATLAB for 220 students, averaging 8 hours a week, leading to improved academic performance
- Developed and delivered individualized lesson plans for, helping students improve average course grades by ~10%

PROJECTS

Better Place Drones | Atlanta, GA | *Research Assistant, Georgia Tech VIP Program*

Aug 2024 – Dec 2024

- Designed and fabricated a deployable tether spool system for an X8 UAV using SolidWorks, selecting structural members and fasteners based on load calculations to support continuous power transmission while preventing cable entanglement
- Integrated mechanical frame design with power electronics and motor controls by coordinating mounting layouts, wire routing, and structural reinforcement, enabling stable **30+ minute** tethered flight within motor temperature and load limits

Creative Decisions and Design | Atlanta, GA | *Major Design Project*

Jan 2024 – April 2024

- Designed and built a programmable robot using DC motors, pulleys, pneumatic pistons, solenoids, encoders, sensors, and an Arduino (C++) to identify and manipulate objects, integrating AC adapters and pressure tank for actuation; reduced task completion time by **28 seconds** compared to the initial design
- Created a detailed 3D CAD model of the robot in SolidWorks by drafting all parts to scale, producing a precise digital replica for presentation and documentation purposes

SKILLS

Technical Skills: SolidWorks, Siemens NX, AutoCAD, MATLAB, ANSYS, Microsoft Office, Word, Excel, PowerPoint, Minitab, GD&T, BOMs, FEA, CFD, DFM, Engineering drawings

Programming: Python, C++, Arduino, MATLAB, SAS

Lab: Metallurgy, DAQ, LabVIEW, 3D printing, Molding, Casting, CNC Machining, Laser cutting

Teamwork Skills: Team leadership, Collaborative problem-solving, Ownership, Accountability, Soccer Club captain