Ahmed Arif

2006aarifsa@gmail.com | http://www.linkedin.com/in/ahmed-arif-7a4156345

EDUCATION

CORNELL UNIVERSITY **Ithaca, NY**

Bachelor of Science in Mechanical Engineering *Expected May 2028*

CURRENT GPA: 3.57

RELEVANT COURSEWORK: Intro to Python, General Chem, Physics I, Calculus I, II, III, Operations Research

SKILLS

- Computer Technical: Python, Fusion 360, Google Workspace (Docs, Sheets, Slides, Forms), Microsoft Office (Excel, Word, Powerpoint)

PROJECTS

5 DOF ROBOT ARM *July 2025 - Aug 2025*

- Engineered a 5-DOF robotic arm in Fusion 360, applying advanced CAD modeling to design multi-axis joint systems that maximized range of motion and structural stability.
- Designed and validated a 360° rotating joint and 4-bar linkage claw mechanism, increasing grasp versatility and enabling manipulation of objects across a 1.5m workspace.
- Improved design efficiency by integrating motion analysis and tolerance checks, ensuring reliable kinematics for potential robotic rover applications.

ROVER PATHFINDING SIMULATION *June 2025*

- Developed a pathfinding simulation from scratch which navigates a rover on a multi-terrain grid (comprised of tiles) to reach its target in the shortest amount of time using a custom function for Dijkstra's Algorithm
- Programmed a logging-system that displays various attributes of the rover for every step in real time, such as position and progress, for the entirety of the rover's journey

10000 FT APOGEE MODEL ROCKET *June - July 2025*

- Designed a fiberglass rocket in OpenRocket powered by a Cesaroni Tech 3727L 1050-P motor, targeting a 10,000 ft apogee for competition-level performance inspired by the Spaceport America Cup.
- Applied OpenRocket's optimization tools to refine aerodynamics, producing two validated designs that achieved 9,945 ft in windy conditions and 9,999 ft in nominal conditions while ensuring stability, recovery reliability, and thermal protection.

EXPERIENCE

MIDDLETOWN ISLAMIC CENTER WEEKEND SCHOOL **New Hampton, NY**

Volunteer Teacher *September 2019 - June 2024*

- Created and adapted lessons for 15+ students weekly, with detailed final reports for school administrators
- Discussed with school administrators about student performance to facilitate an effective educational environment
- Fostered student interest and curiosity through engaging classroom activities

CERTIFICATIONS

MATLAB ONRAMP *August 24 2023*

- Applied vector and matrix operations to solve numerical problems
- Developed and ran scripts and functions to automate computations; Completed with certificate

QUANTUM COMPUTING COURSE BY QUBIT X QUBIT *September 2023 - May 2024*

- Completed a year-long introductory course on quantum computing, covering qubits, superposition, entanglement, and basic quantum gates.
- Applied linear algebra to represent qubit states, manipulate gates, and calculate measurement probabilities.
- Programmed and simulated quantum circuits using Python (Colab) with the Cirq library; explored applications in cryptography and quantum simulations.

GE AEROSPACE SUPPLY CHAIN JOB SIMULATION ON FORAGE *February 23 2025*

- Completed a simulation focused on GE Aerospace's Supply Chain engineering
- Developed a procedure to disassemble a GEnx-1B high bypass turbofan engine core
- Utilized engineering data in order to specify applicability, capacity, and size requirements
- Successfully dispositioned non-conforming turbine blades using GE's Digital Thread and engineering data
- Completed three "Defect Disposition Forms" in Excel for each of the non-conforming turbine blades in the non-conventional machining center.