

RAHEEL NAZIR

Lutherville-Timonium, MD

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🔗 github.com/portfolio

Education

University of Maryland Transfer Program

Bachelor of Science in Mechanical Engineering

Expected May 2027

College Park, MD

Community College of Baltimore County

Associate of Science in Engineering

Jan. 2023 – Present

Essex, MD

- President's List Recipient — Winter 2024 — GPA: 4.00
- Dean's List Recipient — Spring 2014 and Summer 2024 — GPA: 3.70 and 4.00
- Digital Fabrication Lab Professional

Technical Skills

Technical Skills: SolidWorks, AutoCAD, CATIA, Revit

Interpersonal Skills: Positive Influence/Leadership in Team-Based Environments, Conflict Resolution, Attention to Detail

Programming Languages: MATLAB, C++

Projects

Engineering Design – Team Lead | *AutoCAD*

May 2024

- Designed a spaceship the size of a U.S. aircraft carrier using **AI-driven tools**, focusing on modularity and efficiency for space assembly to optimize structural integrity and ease of construction in orbit
- Used AutoCAD to create detailed blueprints of modular components, ensuring precision and compatibility for orbital assembly by implementing industry-standard tolerances and geometric dimensioning and tolerancing (**GD&T**)
- Conducted structural and thermal analyses to optimize the spaceship's design for extreme space conditions by simulating load distributions, thermal expansion, and stress points in various space environments

Pendulum Model | *Discrete Math*

December 2024

- Applied multivariable calculus to model the motion of a pendulum under varying forces by formulating differential equations and solving complex integrals to analyze system behavior
- Utilized advanced calculus techniques such as partial derivatives and **Jacobian matrices** to study the impact of external forces on pendulum motion and identify equilibrium points
- Simulated pendulum motion using numerical methods and computational tools to visualize phase trajectories and predict oscillatory behavior under different initial conditions

Statics Structure | *Finite Element Analysis (FEA)*

December 2024

- Completed a project analyzing static equilibrium of a structure, calculating forces and moments to ensure stability and safety.
- Used engineering software to simulate and visualize forces acting on the structure.
- Presented findings in a report, showcasing problem-solving and technical communication skills.

Leadership / Extracurricular

Rock Climbing Club

Spring 2025 – Present

Event Coordinator

Community College of Baltimore County

- Organized and led climbing events, coordinating logistics and ensuring participant safety.
- Managed communication between club members and local climbing gyms to facilitate group sessions.
- Developed promotional materials and social media content to increase club engagement.

Experience

Al Kareem School

May 2022 – Present

Teacher

Lutherville-Timonium, MD

- Assisted in developing and delivering lesson plans, helping students understand key concepts in subjects such as mathematics and science.
- Provided individual support to 50+ students, adapting teaching techniques to meet various learning styles.
- Supported classroom management and activities, ensuring a positive and productive learning environment.