

Mehrab Hossain

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EDUCATION

Cornell University | Major: Mechanical Engineering | GPA: 3.541 *Expected Graduation, May 2028*

- Relevant Coursework: Multivariable Calculus, Differential Equations, Statics and Mechanics of Solids, Thermodynamics
- Honors: Bridges Scholar
- Organizations: American Society of Mechanical Engineers, Office of Inclusive Excellence, Muslim Student Association

Medgar Evers College Preparatory School | GPA: 99.36 *June 2020 – June 2024*

- *Secretary*, Knights Of Wisdom Chess Team
- Relevant Coursework: AP Calculus BC (5), AP Statistics (5), AP Computer Science A (4)
- Honors & Awards: AP Capstone Diploma, AP Scholar with Distinction, Advanced Regents Diploma
- Programs: Chess in the Schools, First Tech Fund

Medgar Evers College | A.S. Biology - GPA: 3.836/4 *June 2022 – May 2024*

- Honors: Summa Cum Laude

EXPERIENCE

Undergraduate Researcher - HuBMAP Program *May 2025 - June 2025*

University of Florida | Gainesville, Florida

- Analyzed histological and spatial-omics datasets using FUSION to identify cellular patterns in human organ systems.
 - Looked at samples of ovaries and observed the composition of different genes.
- Reconstructed an interactive dashboard using Python that displays different tabs utilizing FUSION tools

Medgar Evers College STEAM Summer Institute Counselor *July 2024 – Aug 2024*

Summer Youth Employment Program | Brooklyn, New York

- Taught robotics, computer science, and 3D design to 30+ middle/high school students; improved engagement by creating hands-on labs.
- Coordinated field trips for 120 students, ensuring safety and educational value.

Tournament Director *January 2023 – 2025*

Imagine Chess | New York, New York

- Directed 20+ youth chess tournaments with 100+ participants. Oversaw logistics, enforced tournament rules, and communicated with parents and staff to ensure a professional environment.

PROJECTS

Reddit CMV Thread Analyzer - CS1110 (Python) *March - April 2025*

- Developed a Python script to analyze Reddit threads from the "ChangeMyView" subreddit, parsing JSON data to identify delta awards and measure user persuasion patterns.
- Found that hedge words, such as "would", "could", "believe", are more frequent in non-persuasive comments. In contrast, persuasive comments show a slightly higher use of tentative but confident markers like "maybe" and "usually", possibly reflecting a balance between confidence and openness.
- Traversed nested comment trees recursively to track delta eligibility, validating award conditions from the thread's JSON data

VOLUNTEERING

FIDE World Rapid & Blitz Championships Volunteer *December 2024*

- Regulated visitor and media entrance of the venue while maintaining a professional environment.

National Honor Society Tutor *October 2022 – June 2024*

Medgar Evers College Preparatory School | Brooklyn, New York

- Conducted weekly 1:1 and group tutoring sessions with middle/high school students from MECPS.
- Increased students' proficiency with regents and AP level courses, including: calculus, physics, and biology.

SKILLS

Programming Languages: Python, Java

Communication, Research

Fusion360, SolidWorks, ANSYS