

RICHI MOZUMDER



Student researcher with NASA GeneLab experience exploring space-related biology and building quantitative and computational skills to transition into astrophysics research.

Contact

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Education

Stuyvesant High School

Sept 2023 - Jun 2027

GPA: 4.0 (UW)

AP Bio (5), AP Chem (5), Drafting, CS Foundations, AP Euro (5), AP CS, AP Precalc Honors

Technical Skills

Programming + Analysis:

Python (Jupyter notebooks), Racket, NetLogo, Java (beginner)

CAD + Modeling:

OnShape (foundational proficiency)

Labs + Research:

Molecular biology protocols, chemical titrations, microscopy

Languages:

English (native), Spanish (intermediate), Bangla (conversational)

Awards & Honors

- **HOSA:** ('24-25) 2nd in Medical Terminology, 4th in Biology (school)
- **Varsity Bowling:** Rookie of the Year '23-24; 3rd Borough Championships, Coach's Award '24-25; 2nd in Borough Championships '25-'26

Research & Technical Experience

NASA GeneLab for High Schools | Student Intern | Jun '25 – Present

- Analyzed OSD-771 spaceflight omics dataset to investigate how simulated microgravity affects inflammatory pathways and kidney function in mice
- Co-developed research proposal that will presented at ASGSR national conference (top 16 of 1170 students from GL4HS)

Science Honors Program, Columbia University | Student | Sept '24 – Present

- Studying relativistic astrophysics with exposure to multivariable calculus, fluid and plasma dynamics, radiative processes, stellar structure, and supernova physics
- Performed organic chemistry labs (steam distillation, saponification, esterification)

Science Regeneron Research Club, Stuy HS | Student Researcher | Jan '24 – Present

- Executed molecular biology experiments including PCR and DNA extraction
- Designed experiments on bacterial responses to heat and light, collecting quantitative CO₂ data and performing statistical analyses

Biology Department Lab Intern, Stuy HS | Lab Intern | Sept '24 – Present

- Prepared chemical solutions, performed titrations, and supported over 200 students weekly in microscopy and enzymatic assays

Cybersecurity Course, Datacion x University Settlement | Student | Jul '25 – Aug '25

- Conducted penetration testing simulations in Kali Linux, including privilege escalation and network reconnaissance
- Applied Linux command line, vulnerability scanning, and the full penetration testing lifecycle

STEM + Competition Involvement

Science Olympiad, Stuy HS | Member | Sept '23 – Present

- Competed in Astronomy and Geological Mapping
 - Placed 8th (Astronomy) and 7th (Geological Mapping) at YUSO Invitational 2025
- Currently training for F=ma 2026 with goal of top placement

Other Extracurriculars

Stuy Cultural Preservation Society, Stuy HS | President | Jan '24 – Present

- Revived inactive club, launched membership growth through cultural initiatives
- Manage logistics and budget proposals; leading launch of cultural newsletter

Metis Project, NY | Math Admin & Board Member in Training | Sept '23 – Present

- Oversee operations of 190+ tutors, developing workflows for efficient lesson planning and student support
- Previously tutored students as volunteer math tutor directly in math problem-solving, emphasizing hands-on skill development