RICHI MOZUMDER

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)

- Drafting: Created isometric, orthographic, and auxiliary views; modeled 3D parts in OnShape (CAD)
- CS: Built simulations and programs using Racket and NetLogo
- Labs: Fetal pig dissection

Technical Skills

Software + Programming:
Python (beginner), OnShape (CAD), Racket, NetLogo
Languages:
English (Native), Spanish (Intermediate), Bangla (Conversational)
Other Activities:
Stuy Spectator Web Dept.

Awards & Honors

- HOSA: (2024-25) 2nd in Medical Terminology, 4th in Biology (schoolwide)
- Varsity Bowling: Rookie of the Year (2023–24); 3rd in Borough Championships, Coach's Award (2024-25)

Physics Interests

Recently began independent study in Newtonian mechanics; aiming to compete in F=ma 2026.

Research, Technical, & Scientific Experience

Science Olympiad, Stuy HS | Sept '23 - Present | *Member*
- Competed in Astronomy and Geological Mapping, analyzing stellar evolution, spectra, celestial mechanics, and interpreting USGS maps/mineral samples
- Placed 8th (Astronomy) and 7th (Geological Mapping) at YUSO Invitational '25

Cybersecurity Course, Datacion x University Settlement | Jul '25 - Present | *Student*
- Completed hands-on ethical hacking labs covering Linux command line, penetration testing lifecycle, and vulnerability scanning
- Simulated exploits on Kali Linux, including privilege escalation and network reconnaissance

GeneLab for High Schools, NASA | Jun '25 - Present | *Student Trainee*
- Selected for a national NASA program focused on omics and space biology research
- Using Jupyter notebooks to analyze transcriptomics datasets via guided bioinformatics modules; learning pathway enrichment and gene expression analysis techniques

Science Honors Program, Columbia University | Sept '24 - Present | *Student*
- Studied advanced *Number Theory*, focusing on prime numbers, modular arithmetic, and rigorous proof strategies
- Performed *Organic Chemistry* labs including steam distillation, saponification, and esterification, gaining experience in chemical process techniques

Other Extracurriculars

Stuy Cultural Preservation Society, Stuy HS | Jan '24 - Present | *President*
- Revived an inactive club and grew membership with creative cultural initiatives
- Managed logistics and budget proposals; Leading launch of a cultural newsletter

Hindu Students Council, Stuy HS | Sept '24 - Present | *Co-President starting Sept '25*
- Supporting cultural initiatives for '25–'26; working to increase visibility and participation

Metis Project, NY | Sept '23 - Present | *Volunteer Math Tutor*
- Taught math to middle schoolers with customized lessons to improve understanding

Bobby-Tariq Tutoring Center, Jackson Heights | Jul '25 - Present | *Volunteer Tutor*
- Offered personalized tutoring in SHSAT/SAT for mastering foundational math

Biology Department Lab Intern, Stuy HS | Sept '24 - Present | *Lab Intern*
- Prepared chemical solutions and performed titrations; set up instrumentation for microscopy and enzymatic assays to support over 200 students weekly

Science Regeneron Research Club, Stuy HS | Jan '24 - Present | *Student Researcher*
- Executed molecular biology protocols including PCR and DNA extraction (human and yeast samples)
- Designed experiments on bacterial metabolic responses to heat and light; analyzed data with CO_2 gas sensors and statistical methods