

Richi Mozumder

Student Researcher | Biophysics & Astrophysics

EDUCATION

Stuyvesant High School, NY

September 2023 - June 2027 | 4.0 (UW)

Relevant Coursework: AP Biology (5), AP Chemistry (5), AP Precalc Honors, Drafting/CAD (99 avg.), Computer Science Foundations (99 avg.), AP European History, APUSH, AP Lang, Cancer Research (100 avg.)

RESEARCH & ACADEMIC EXPERIENCE

Science Honors Program, Columbia University — *Student*

Sept 2024 - PRESENT

Completed advanced coursework in Relativistic Astrophysics, Number Theory, and Organic Chemistry.

Applied multivariable calculus and fluid dynamics to model stellar structures and supernova dynamics.

NASA GeneLab for High Schools, Remote — *Student Intern*

June 2025 - December 2025

Performed computational analysis on the OSD-771 spaceflight dataset, modeling systemic impacts of microgravity.

Co-authored a 15-page research proposal and poster; advanced as one of Top 2 teams out of 47 to be sponsored at the ASGR national conference.

Science Regeneron Research Club, Stuy HS — *Student Researcher*

January 2024 - June 2025

Executed molecular biology protocols: PCR, DNA extraction, and titrations.

Designed experiments measuring bacterial response to heat and light; collected and statistically analyzed CO₂ data to model system responses.

Biology Department, Stuy HS — *Lab Intern*

September 2024 - June 2025

Prepared chemical solutions, performed titrations, and supported 200+ students weekly in microscopy and enzymatic assays.

Cybersecurity Course, Datacion x University Settlement — *Student*

July 2025 - August 2025

Applied computational problem-solving to identify vulnerabilities in complex networks using Kali Linux.

LEADERSHIP & ORGANIZATIONS

Stuy Cultural Preservation Society, Stuy HS — *President*

January 2024 - PRESENT

Revived a 9-year inactive club, growing membership through cultural initiatives and newsletter launch.

Contact:

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<https://www.linkedin.com/in/rmozumder/>

SKILLS

Programming & Computational Analysis:
Python (Jupyter), Racket, NetLogo, Java (beginner)

CAD & Modeling:
OnShape (foundational proficiency)

Labs & Research:
Molecular biology protocols, chemical titrations, microscopy

AWARDS

Science Olympiad ('25 YUSO Invitational): 8th Astronomy, 7th Geological Mapping

HOSA: ('24-'25) 2nd Medical Terminology, 4th Biology (school)

Varsity Bowling: Rookie of the Year '23-'24; 3rd Borough Championships & Coach's Award '24-'25; 2nd Borough Championships '25-'26

LANGUAGES

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

OTHER EXPERIENCE

Bowling Varsity Player | Fall 2023 – Present

Red Cross Volunteer | Spring 2024

Managed budgets, coordinated logistics, and led events fostering student engagement.

Metis Project, NY — *Math Admin & Board Member in Training*
September 2023 - PRESENT

Oversaw operations of 190+ tutors; developed workflows for lesson planning and student support.

Volunteered as a math tutor, emphasizing hands-on problem-solving skills.

SYEP Intern | Summer 2024

Spectator Web Department
Member | Spring 2025 –
Present

HOSA Med Term Co-Leader |
Fall 2025 – Present

HSC Co-President (former
Events Coordinator) | Fall 2025
– Present