

Mithun Makam

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EDUCATION

Boston University

Boston, MA

Bachelors of Arts in Biochemistry/Molecular Biology and Computer Science

Expected Graduation May 2027

- **Cumulative GPA:** 3.80/4.00 (Dean's List '23)
- **Activities:** Pratt Laboratory, BiztechBU, Capstone Research Project, American Cancer Society
- **Relevant Coursework:** Intensive General Chemistry, Intensive Cell Biology, Discrete Mathematics, Statistics I, Intro to CS II

RESEARCH EXPERIENCE

Pratt Laboratory

Boston, MA

Undergraduate Research Assistant

September 2024 - Present

- Developing assays for multiplexed profiling of early-stage Pancreatic Ductal Adenocarcinoma biomarkers
- Utilize AutoDroplet Generator, Thermocycling and BioRAD Qx600 systems to perform droplet digital PCR and subsequent data analysis to detect ultra low levels of KRAS mutations via fluorescent probe tagging
- Assist in lab maintenance tasks such as buffer preparation, autoclaving, preparing weekly lab notebook records, research update reports, and tracking lab orders via Quartzly

Capstone Research on Isomerisation of Nitro-Nitrito Pentamine Cobalt Chloride

Boston, MA

Undergraduate Researcher

January 2024 - April 2024

- Synthesized Nitrito isomer and performed the isomerization reaction by leveraging differences in thermodynamic stability
- Analyzed the reaction and characterized both isomers using UV-Vis Spectroscopy, Freezing point depression and IR spectroscopy
- Summarized our findings in a poster and presented at the Boston University Department of Chemistry Capstone Symposium

Glioblastoma Multiforme: An Evaluation of Existing and Alternative Treatment Modalities

Bangalore, India

Co-Author

October 2021 - June 2022

- Published a literature review that discussed treatment modalities for Glioblastoma Multiforme in the Journal of Student Research
- Provided an analysis of over 20+ clinical trials using median and overall progression free survival rates in addition to qualitative reports of effects on patient QoL; reported efficacies of each trial to determine the viability of each treatment

RELEVANT EXTRACURRICULARS

Biztech x Accenture Case Collaboration Competition

Boston, MA

Consulting Team Member

January 2024 - April 2024

- One of 30 chosen to participate in a research based casing competition hosted by Accenture and Biztech at Boston University
- Presented a solution implementing AI-based inventory management to address supply chain issues and reduce lead times.

Shadowing Experience at Castle Hill Hospital (NHS)

Hull, United Kingdom

Intern

July 2022

- Shadowed 40+ hours in the cardiothoracic wing of the hospital and observed multiple valve repair and CABG surgeries
- Conducted daily ward rounds and learned to diagnose post-op complications including heart murmurs and arrhythmias

Cell and Molecular Biology Intern at SUPROS

Bangalore, India

Intern

June 2022

- Collaborated in a team of 4 to complete weekly tasks such as PCR, DNA Cloning, DNA Sequencing using Snappgene software
- Designed a restriction enzyme based simulation on SnapGene to clone a gene into a mammalian expression system

Alleviate Social Service Group

Bangalore, India

Member/Tech Lead

April 2021 - May 2022

- Raised funding to purchase 1100 meals for migrant workers and their families during the COVID-19 pandemic
- Organized clothing drives to donate over 220 lbs of used clothes at a children's orphanage

ADDITIONAL INFORMATION

Laboratory Skills: Droplet Digital PCR (ddPCR), Quantitative Assays, Enzyme immobilization, Thermocycling, Titration, Pipetting, UV-Vis/Infrared Spectroscopy, H-1 NMR, Cryoscopy, Thin Layer Chromatography, Chiral Resolution

Software Skills: Python, Java, Microsoft and Google Suite, BioRad Qx600

Interests: Oncology, Research, Cricket, Soccer (High School Varsity), Piano (Grade 7 LCM), Gym, Travelling