

Gazi Salah Uddin Nuhash

Genomics | Neuroscience | Bioinformatics

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Texas Tech University, Lubbock, Texas 79409, United States

PROFESSIONAL SUMMARY

Driven, ambitious and self-motivated researcher with a strong background in Alzheimer's disease (AD), Mouse Handling and Sampling, Aseptic Surgery, CRISPR-Cas9 Systems, Mammalian Cell Culture (HEK293), Bacterial Cell Culture (*Vibrio cholerae*, *Klebsiella*, *E. coli*), Coliphage Culture, Molecular and Gene Cloning, Immunofluorescence, Immunohistochemistry, Computer-Aided Drug Design (CADD), Next-Generation Sequencing (NGS) and NGS data analysis. Academically distinguished life sciences graduate with exceptional leadership abilities, adept at public speaking, teamwork, and effective communication. Seeking to pursue further professional opportunities, make a difference within my field and harness my potential.

EDUCATION

Master of Science in Biotechnology

[Texas Tech University](#)

August 2025 – Present
Lubbock, Texas, United States

- Research Concentration in Life Sciences
- Current GPA — 4.00 / 4.00

Bachelor of Science in Biochemistry and Biotechnology

[North South University](#)

May 2018 – August 2022
Dhaka, Bangladesh

- Undergraduate project — '[Mutational Analysis of SARS-CoV-2 genomes of isolates from Nepal](#)'
- [Graduated cum laude](#) — achieving a position in the top 5% of my class.
- Achieved CGPA — 3.51 / 4.00 (88th to 90th percentile)
- U.S. Equivalency Credential verified by World Education Services (WES) [CxC-ICAP | Ref: 6330816, GPA — 3.51 / 4.00]

EMPLOYMENT HISTORY

Graduate Research Assistant

[Texas Tech University](#) | [Center for Biotechnology & Genomics](#)

September 2026 – Present
Lubbock, Texas, United States

- Investigated Alzheimer's disease (AD) associated molecular fingerprints by identifying disease-relevant changes in gene expression, protein abundance, cellular pathways, and molecular biomarkers.
- Analyzed biological and genomic datasets to characterize molecular signatures linked to amyloid- β pathology, tau dysregulation, neuroinflammation, synaptic dysfunction, and neuronal degeneration.
- Processed, curated, and quality-controlled experimental and omics datasets using Python, R, Excel, and bioinformatics tools such as Gaussian to ensure accurate, reproducible downstream analysis.
- Prepared publication-quality figures, statistical summaries, heatmaps, pathway visualizations, and data tables for laboratory meetings, research posters, manuscripts, and presentations.

Student Assistant — assisted the student body through customer service and more.

[Texas Tech University](#) | [Hospitality Services](#)

March 2026 – August 2026
Lubbock, Texas, United States

Research Assistant

[ABCD Laboratory, Bangladesh](#)

July 2024 – February 2026
Chattogram, Bangladesh

- Led computational and medicinal chemistry projects investigating small-molecule modulators relevant to neurodegenerative disease pathways – integrating organic, physical, and biophysical chemistry principles in hypothesis-driven study design.
- Identified several tau kinases linked to neurodegeneration as targets through various mechanistic investigations – including virtual screening, cheminformatics, biophysics, and computational chemistry.

- Performed molecular dynamics simulations using GROMACS and VMD to observe drug-target interactions – providing critical insights into drug efficacy and stability.
- Collaborated with and mentored peers and junior researchers in applying chemical reasoning to experimental design, data analysis, and scientific communication, including guiding them through problem-solving strategies.

Assistant Lab Manager — developed policies, provided operational oversight and more.

[ABCD Laboratory, Bangladesh](#)

July 2024 – February 2026

Chattogram, Bangladesh

Junior Research Collaborator

[ABCD Laboratory, Bangladesh](#)

August 2023 – June 2024

Chattogram, Bangladesh

- Discovered potential drug candidates by exploring natural products – leading to novel avenues in drug design & discovery.
- Identified and validated key proteins and enzymes as potential targets for therapeutic interventions.
- Utilised Computer-Aided Drug Design (CADD) techniques to discover innovative drug interactions – enhancing the efficiency of the drug development process.

Project Manager

[Wholesome Alive, LLC.](#)

July 2022 – July 2023

Wilmington, Delaware, United States (Remote)

- Oversaw end-to-end project planning and execution, including scoping, timeline development, resource allocation, and cross-functional coordination to ensure on-time, on-budget delivery.
- Led data analytics efforts to translate complex quantitative findings into actionable insights, using dashboards, reports, and forecasts to guide strategic and operational decisions.
- Managed project finances by developing and tracking budgets, monitoring expenditures, and reporting on financial performance to stakeholders while identifying opportunities for cost optimization.

Research Intern

[North South University](#) | [NSU Genome Research Institute \(NGRI\)](#)

February 2020 – June 2022

Dhaka, Bangladesh

- Collaborated on multiple projects to collect and analyze data – including antibiotic resistance trends against *Vibrio cholerae*, and SARS-CoV-2 genome sequencing using NGS.
- Investigated mutations and clusters in the SARS-CoV-2 genomes of all available isolates from Nepal – informing public health strategies.
- Successfully extracted, cultured, and maintained *Vibrio cholerae*, *Klebsiella* spp., and Coliphage – ensuring reliable and reproducible research results.

Laboratory Assistant (Lab-Star)

[North South University](#) | [Department of Biochemistry and Biotechnology](#)

August 2019 – January 2020

Dhaka, Bangladesh

- Assisted faculty and lab instructors during practical classes by reinforcing experimental protocols, demonstrating techniques, and supporting student learning.
- Helped maintain laboratory readiness through reagent preparation, basic equipment care, and organization of workspaces while promoting good housekeeping practices.
- Supported peers with one-on-one and small-group tutoring, emphasizing lab safety guidelines, proper use of PPE, and accurate data recording and interpretation.

SCIENTIFIC WORKS

- **Nuhash GSU**, Crasto, C.J. 'Molecular Fingerprints in Natural Products to Address Alzheimer's disease – A Computational Approach' (In Preparation)
- **Nuhash GSU**, Junaid, M. 'Lamellarins – An updated review of Sources, Synthesis, Pharmacology, Pharmacokinetics and Toxicity' (Submitted to *Acta Pharmaceutica Sinica B*, Impact Factor 14.6)
- Pantho AF, Ashraf AHMZ, Ahmed R, **Nuhash GSU**, Afroze SH, Kuehl TJ, Hossain L, Uddin MN. 'Revivify Attenuates Inflammatory & Oxidative Stress' (In Review)
- Pantho AF, Ashraf AHMZ, Ahmed R, **Nuhash GSU**, Afroze SH, Kuehl TJ, Hossain L, Uddin MN. 'Revivify Boosts Immunity by Activating B and T Cell Population in an *in vitro* Cell Model Study' (In Review)

CONFERENCES, CERTIFICATIONS & TRAINING

- [Aseptic Surgery](#) — Collaborative Institutional Training Initiative (CITI Program) [2026 – 2030]

- [Working with Mice in Research](#) — Collaborative Institutional Training Initiative (CITI Program) [2026 – 2029]
- [Responsible Conduct of Research](#) — Collaborative Institutional Training Initiative (CITI Program) [2025]
- Alzheimer's Association International Conference, *AAIC 2025 and AAIC 2024* — Toronto, ON [2025] & Philadelphia, PA [2024]
- Hands-on training in '[Next-Generation Pathogen Sequencing](#)' — Child Health Research Foundation (CHRF) [2025]
- [Artificial Intelligence \(AI\) Tools for Academic Research](#) — ABCD Laboratory, Bangladesh [2024]
- Hands-on training in 'Computer-Aided Drug Design' — ABCD Laboratory, Bangladesh [2023]

CORE COMPETENCIES & RESEARCH INTERESTS

- | | | | |
|---------------------|--------------------------|-------------------------|---------------------------|
| ▪ Neurodegeneration | ▪ Neuropharmacology | ▪ Molecular Biology | ▪ Quantum Chemistry |
| ▪ Bioinformatics | ▪ Genomics | ▪ Proteomics | ▪ Cheminformatics |
| ▪ System Biology | ▪ Single-cell sequencing | ▪ Clinical Biochemistry | ▪ Animal & Cellular Model |

HONORS, AWARDS & SCHOLARSHIPS

- Exchange Scholar of KL-Youth Exchange & Study, [YES Programs](#) in [Texas](#) — U.S. Department of State (2013 – 2014)
- Graduate School Competitive Tuition Scholarship — Texas Tech University (2025 – 2026)
- Vice President of Operations — NSU Bioscience Club (2020 – 2022)
- '[Full-tuition Scholarship](#)' for brilliant performance in the admission test — North South University (2018)
- Winner of 'Environmental Presentation' at 2nd International Nature Summit — Notre Dame College (2016)
- Quarter-Finalist of 'Public Speaking' at Asian English Olympics (AEO) — BINUS University, Jakarta, Indonesia (2016)
- Winner of 'English Presentation' at 2nd & 3rd National English Carnival — Notre Dame College (2016 & 2017)
- '[Merit Scholarship](#)' for exceptional performance in Higher Secondary Certificate (HSC) examination — Board of Intermediate & Secondary Education, Dhaka (2017)

SKILLS

Laboratory Skills: [Next-Generation Sequencing \(NGS\)](#), Western Blot, SDS-PAGE, PCR, RT-qPCR, ELISA, DNA/RNA Extraction and Purification, Mammalian Cell Culture (HEK293), Bacterial Cell Culture (*Vibrio cholerae*, *Klebsiella*, *E. coli*), Flow Cytometry, Cell Sorting, Animal Husbandry, Mouse Handling and Sampling, Aseptic Surgery, gRNA Design and validation, Lentiviral Plasmid Construction using CRISPR-Cas9 systems, Molecular and Gene Cloning, Immunofluorescence, Immunohistochemistry, HPLC, Protein Extraction, Responsible Conduct of Research, and Laboratory Safety

Computational Skills: Machine Learning (ML), NCBI Toolkit, MEGA, GROMACS, NAMD, VMD, Discovery Studio, Gaussian, Chimera, MGL Tools, PyMOL, AutoDock Vina, Open Babel, Genome Annotation, Data Mining, Artificial Intelligence (AI)

Programming Languages: Python (*Intermediate*), C/C++ (*Advanced*), R (*Beginner*)

Statistical Skills: Microsoft Excel, SPSS, R

Languages: English: Fluent — IELTS Overall Band Score: 8.0 / 9.0 (*January 2024*) and Bengali (Native)

Leadership Skills: Public Speaking, Visionary and Ethical Leadership, Project Management, Interpersonal Relations, Budget Analysis, Strategic Thinking, Conflict Resolution

REFEREES

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Muhammad Maqsud Hossain, PhD

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[NSU Genome Research Institute \(NGRI\)](#)
Professor
[Department of Microbiology](#)
(previously Department of Biochemistry and Microbiology)
[North South University](#)
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