

# JUBAIRUL ISLAM (HASAN)

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## ACADEMIC CREDENTIALS

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### Masters of Science in Medical Biotechnology

[Nov 2023 – Current]

Alma Mater Studiorum - Università di Bologna, Bologna, Italy

Research Interest: Medical Genomics and Bioinformatics

Cumulative GPA: N/A

### Bachelor of Science in Genetic Engineering and Biotechnology

[Feb 2017 – March 2022]

Shahjalal University of Science and Technology (SUST), Sylhet, Bangladesh

Final GPA: 3.18 / 4.00

Bachelor Thesis: “Subtractive genome analysis of *Yersinia pestis* to identify potential therapeutic targets for drug development approach”

## RESEARCH EXPERIENCE

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### Thesis Project [2021 – 2022]

Conducted the final year thesis of bachelor study under the supervision of **Assistant Professor G.M. Nurnabi Azad Jewel** entitled “*Subtractive genome analysis of Yersinia pestis to identify potential therapeutic targets for drug development.*”

- Designed the research pipeline and workflow
- Employed a new dimension to the project by incorporating pangenome analysis
- Performed automation, data analysis, and visualizations using in-house scripts, i.e., Bash/Python/R
- Conducted result interpretation and drafted publishable manuscript

### Case Study [2018]

Carried out on-field study and reporting of genetic disease “*Congenital atresia ani with rectovaginal fistula*” in domestic cattle around the local Sylhet region under the supervision of **Professor Dr. Mohammad Jakir Hosen**.

- Led a group of five members on the case study
- Collected data from the regional veterinary hospitals, offices, and local farms
- Recorded medical histories and analyzed the pedigree of local male and female calves

## PROFESSIONAL EXPERIENCE

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### Junior Executive – Research & Quality Control

[May 2022 – September 2022]

Shikho Technologies Bangladesh Ltd., Banani, Dhaka

Ensured the quality of educational content of secondary and upper secondary-level **Biology** and **Chemistry**.

- Maintained the quality of 1700+ video lessons and 1000+ smart notes on the Shikho mobile app.
- Created 87+ video lesson scripts for secondary and upper-secondary Biology and Chemistry.
- Collaborated with the Research & Development team on making creative bite-size Chemistry lessons.
- Awarded top performer of the 2<sup>nd</sup> quarter of the year 2022.

## PUBLICATIONS

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**Jubairul Islam**, Himadree Sarkar, Hammadul Hoque, Md. Nazmul Hasan, G.M. Nurnabi Azad Jewel. “In-silico approach of identifying novel therapeutic targets against *Yersinia pestis* using pan and subtractive genomic analysis.” *Computational Biology and Chemistry, Elsevier* (2022). <https://doi.org/10.1016/j.compbiolchem.2022.107784>

## CORE SKILLS AND COMPETENCIES

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### Dry Lab Skills:

Scientific Database (NCBI, GenBank, UniProt, PDB) / Subcellular Localization Tools (PSORTb, CELLO) / Sequence alignment (BLAST, ClustalW) / Phylogenetic tools (MEGA, ClustalX) / Sequence Clustering (CD-Hit) / Molecular Dynamic Simulation (GROMACS) / Pangenome analysis (GET\_HOMOLOGOUS) / Protein-protein interactions databases (STRING) / CytoScape / Molecular Docking (AutoDock Vina 4) / Homology Modeling (SWISS-MODEL)

### Wet Lab Skills:

DNA-RNA isolation / Gel Electrophoresis / Culture Media Preparation / Cell culture / Cell Passaging and Subculture / Centrifugation / PCR / Immunohistochemistry Techniques / Genome Editing (CRISPR-Cas9) / Sanger Sequencing

### Programming Skills:

Python 3 / Basic R programming (R Studio) / Bash-scripting / Basic HTML, CSS, and JavaScript

### Technical Skills:

Linux Distros (Ubuntu, Linux Mint) & Windows 10 / Latex (Overleaf) / G suite (Gmail, G-Drive, G-meet, Classroom) / Microsoft Office (Word, PowerPoint, Excel) / Bibliographic Software: Zotero, Mendeley

### Soft Skills:

Research Planning and Organizing / Tutoring / Oral Presentations / Written and Verbal skills / Teamwork and Leadership

## ADDITIONAL COURSES AND WORKSHOPS

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- Hands-on lab training on genome editing tool “CRISPR/CAS9” by [COB & BioBangla](#) at SUST (2020)
- Remote training in Bioinformatics for Biologists: Linux, Bash, and R by [Wellcome Genome Campus](#) (2022)
- Data analysis and visualization with Python – [Certification by freeCodeCamp](#) (2022)
- Introduction to Python course by [Kaggle](#) (2021)
- Introduction to Machine Learning by [Kaggle](#) (2023)
- Bioinformatics BootCamp (10 days long) 1.0 by [CHIRAL Bangladesh](#) (2023)

## VOLUNTEERING AND AFFILIATIONS

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### Executive at ISCB Regional Student Group – Bangladesh

[2020 – Current]

An active member of the International Society for Computational Biology (ISCB), Bangladesh region

**Responsibilities:** Host webinars, organize events, and promote ISCB vision among young life science students.

### Learning Resource Executive at CANSi Research Institute (SUST)

[2018 – 2019]

Departmental learning club in the field of Bioinformatics and Molecular Biology

**Responsibilities:** Prepare training materials and organize educational or training events in the department.

### Content developer at Shikhon.org

[2017]

Volunteered in online question development for primary and secondary-level students with science backgrounds

**Responsibilities:** Developed creative questions and problem sets for Math/Chemistry/Physics courses.

**LINGUISTIC SKILLS**

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**Bengali** – Native Speaker  
**Italian** – Elementary (A1 level)  
**German** – Elementary (A1 level)  
**English** – Advanced Proficiency ([IELTS C1](#))

| Overall | Listening | Reading | Speaking | Writing |
|---------|-----------|---------|----------|---------|
| 7.5     | 7.5       | 7.5     | 7.5      | 7.0     |

**REFERENCES**

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**G.M. Nurnabi Azad Jewel** | Supervisor  
Assistant Professor  
Dept. of Genetic Engineering & Biotechnology  
Shahjalal University of Science & Technology  
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