

# MD. AL-MUSTANJID

Dhaka, Bangladesh

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## RESEARCH EXPERIENCE

Research Assistant, [Centre for Advanced Machine Learning and Applications \(CAMLAs\)](#) [↗](#)

► Bioinformatics, Systems Biology, Data Mining, Pattern Recognition, Molecular Insights

- We have developed an analytical framework with the application of *bioinformatics and systems biology methodologies* under the supervision of [Dr. SM Hasan Mahmud](#) and [Dr. Mohammad Ali Moni](#) to enhance the early prediction and diagnosis of illness outcomes by analyzing disease progression, particularly in difficult and chronic conditions with the ultimate goal of redesigning therapeutics with more effectiveness.
- Led the development of 1 research project to explore the latest molecular insights and therapeutics conveyed between diseases (COVID-19 and Psychological disorder) through applying bioinformatics and systems biology methodologies and tools.
- Analyze **OMICS** data derived from disease samples with specific characteristics to spot early molecular alterations before the onset and progression of diseases.
- Guided 2 undergraduate students in **microarray data** analysis in R language environment, research procedures and evaluation of complex biological data.

Reviewer, [Publons](#) [↗](#)

Apr 2022 - Present

- Peer reviewed 2 articles for [Informatics in Medicine Unlocked](#) (Elsevier Open Access Journal)

## PUBLICATIONS

- An Integrated Bioinformatics and System Biology Approaches to Identify Synergistic Effects of COVID-19 on Physiological Disorders for discovering therapeutics targets. **Md. Al-Mustanjid**, Saleheen Khan Sazol, S M Hasan Mahmud, Hosney Jahan, Dip Nandi, Md Habibur Rahman. (\*Under Review) *Heliyon*
- **Al-Mustanjid, M.**, Mahmud, S. H., Akter, F., Rahman, M. S., Hossen, M. S., Rahman, M. H., & Moni, M. A. (2022). Systems biology models to identify the influence of SARS-CoV-2 infections to the progression of human autoimmune diseases. *Informatics in medicine unlocked*, 32, 101003. [\[Paper\]](#)
- Mahmud, S. H., **Al-Mustanjid, M.**, Akter, F., Rahman, M. S., Ahmed, K., Rahman, M. H., & Moni, M. A. (2021). Bioinformatics and system biology approach to identify the influences of SARS-CoV-2 infections to idiopathic pulmonary fibrosis and chronic obstructive pulmonary disease patients. *Briefings in Bioinformatics*, 22(5), bbab115. [\[Paper\]](#)
- **Al-Mustanjid, M.**, Mahmud, S. H., Royel, M. R. I., Rahman, M. H., Islam, T., Rahman, M. R., & Moni, M. A. (2020). Detection of molecular signatures and pathways shared in inflammatory bowel disease and colorectal cancer: A bioinformatics and systems biology approach. *Genomics*, 112(5), 3416-3426. [\[Paper\]](#)
- Rahman, M., Rahman, Z., **Al-Mustanjid, M.**, Uddin, M. S., & Jany, M. H. R. (2020, February). Software Process Improvement Based on Defect Prevention Using Capability and Testing Model Integration in Extreme Programming. In *International Conference on Cyber Security and Computer Science* (pp. 270-279). Springer, Cham. [\[Paper\]](#)

- Hossen, M. S., Rahman, M. H., **Al-Mustanjid, M.**, Nobin, M. A. S., & Habib, M. A. (2019, December). Enhancing Quality of Service in SDN based on Multi-path Routing Optimization with DFS. In 2019 International Conference on Sustainable Technologies for Industry 4.0 (STI) (pp. 1-5). IEEE. [\[Paper\]](#)
- **Arif, A. M.**, Mandal, C., & Rahman, M. H. (2019). Design of a common pathway drug for all types of cardiovascular diseases: A network biology approach. Network Biology, 9(2), 28-41. [\[Paper\]](#)

## RESEARCH INTERESTS

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Bioinformatics, Systems Biology, Data Mining, Machine Learning, Pattern Recognition

## PROFESSIONAL EXPERIENCE

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**Software Engineer, Development Research Network-Dnet** [↗](#) Mar 2022 - Present

**Junior Software Engineer, Development Research Network-Dnet** [↗](#) Feb 2021 - Feb 2022

Role & Responsibilities as Software Engineer:

- Utilizing **Laravel MVC Framework, PHP, JS, MySQL, Git, jQuery, Ajax, and Bootstrap tech stack.**
- Developing integrated admin panel to provide a more flexible and reliable platform that aided program team members in collecting data and generating reports for more than 300 schools and its corresponding affiliate sub-programs.
- Constructing and managing a customized monitoring and assessment platform for 1200 participants' of the [British Council's EDGE](#) project using **Google AppScript (JS)** on Google Sheet platform.
- Optimizing queries and managing eloquent relationships to balance and load data in a SQL database management system.
- Building customized Moodle-based digital educational portal systems with a target audience of more than 2,000 participants to enable e-learning environments that focus major emphasis on social awareness and impact.
- Applying quality control procedures, test applications in accordance with system design, role management, security concerns and repair issues.

## SELECTED PROJECTS

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**CAMLAs - A research lab website** [↗](#) May 2022

- Being a Research Assistant of the CAMLAs and also as a Software Engineer, I have built this website with basic frontend technologies (HTML5, CSS3 and Js) to showcase our visions and research works.

**Travo - A Travel Blog** [↗](#) | **Node.js, Express.js, Mongodb** Apr 2018

- It is an online publishing blog where travellers can share their adventures. Adventures would share their adventures through stories including images, and places. One traveller can comment on other travellers' posts & rate them as well as share.

**Giftz - A shopping store** [↗](#) | **ASP.NET & WEB Technologies** Sep 2017

- Giftz is a shopping store as well as an e-commerce site too. By Giftz people can buy or gift superior products.

## TECHNICAL SKILLS

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<b>Programming Languages</b>	C, Php, Javascript, R, Python
<b>Database</b>	MySQL, Nosql
<b>Developer Tools</b>	VS Code, Eclipse, Trello, Visio, L <sup>A</sup> T <sub>E</sub> X
<b>Version Control</b>	Git, Github

## EDUCATIONAL QUALIFICATION

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### B.Sc. in Software Engineering

Daffodil International University, Dhaka, Bangladesh

Jan 2015 - Mar 2019

CGPA: 3.35/4.00

**Thesis Dissertation:** Risk Assessment and Drug Design using R: Heart Diseases [🔗 \[Source\]](#)

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## LANGUAGE PROFICIENCY

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English      Fluent working proficiency

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## TRAINING & OUTREACH

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### Training

**2021**      Course: An Introduction to Peer Review, Institution: Web of Science Academy

Course: Reviewing in the Sciences, Institution: Web of Science Academy

**2020**      Course: Object-oriented analysis and design, Institution: DevSkill

### Outreach

**2020**      Founder of [Bioseekers Lab](#) - A group of people committed to solving biological problems

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## AWARDS & ACHIEVEMENTS

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### Research Award

**2022, 2021**      Awarded in recognition of scholarly publications for the years of 2020 and 2021 from [Division of Research, Daffodil International University](#)

### Scholarship

**2009**      Govt. Junior Scholarship, Ministry of Education, Bangladesh

**2006**      Govt. Primary Scholarship, Ministry of Education, Bangladesh

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## REFERENCES

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### Dr. SM Hasan Mahmud

Assistant Professor

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American International University, Bangladesh

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