

Md. Mazharul Islam

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Dhaka, Bangladesh


CAREER OBJECTIVE

Ph.D. focus in cybersecurity, emphasizing the integration of artificial intelligence, machine learning, and large language models for intelligent threat detection and secure system design. Academic and research experience includes blockchain-based systems, cyber-physical infrastructures, and ML-driven security applications. Committed to advancing scalable and adaptive AI-based frameworks that address cybersecurity challenges in critical systems and privacy-preserving environments.


PROFESSIONAL EXPERIENCE

- Bangladesh Data Center Company Limited (BDCCL) 

April, 2024 - Present
Dhaka, Bangladesh

Assistant Manager (Cloud)
 - Provision and manage Oracle Cloud Infrastructure (OCI) resources—including compute instances, storage, and databases—tailored to client requirements under Infrastructure as a Code (IaaS) model.
 - Deliver ongoing cloud support by troubleshooting and resolving client issues to ensure seamless service delivery and adherence to SLAs.
- Ethics Advanced Technology Limited (EATL) 

September, 2023 – November, 2023
Dhaka, Bangladesh

Cyber Security Instructor
 - Conducted hands-on cybersecurity training sessions for 50+ IT professionals from leading banks, using EC-Council’s ICBT: Cybersecurity Essentials iLabs to enhance practical threat detection and mitigation skills.
 - Designed and managed interactive lab exercises, providing individual guidance to reinforce core concepts in network security, ethical hacking, and incident response.
- One World Infotech Limited 

December, 2020 - May 2021
Gulshan-1, Dhaka, Bangladesh

Solution Engineer
 - Supported enterprise clients in deploying multi-factor authentication (OneSpan) and conducting advanced threat and vulnerability assessments to strengthen cybersecurity posture.
 - Collaborated on incident response readiness, SOC transformation, and penetration testing initiatives, aligning technical solutions with organizational security frameworks and compliance needs.

ACADEMIC EXPERIENCE

- Institute for Advanced Research (IAR) Lab

January, 2024 - Present

Research Assistant

United International University Collab with North South University

 - Developed and deployed a blockchain-based health insurance system using smart contracts and cryptographic techniques to preserve patient privacy and detect fraud, resulting in a peer-reviewed publication.
 - Currently leading research on machine learning-based fault detection in healthcare systems, focusing on anomaly identification and predictive diagnostics.
- Cyber Physical System with Phasor Measurement Unit (CPS-PMU) Research Lab

February, 2022 – April, 2024

Graduate Research Assistant

North South University

 - Developed and tested a cyber-physical system (CPS) testbed using Node-RED for simulating smart grid environments with integrated data and power network flows.
 - Utilized GridPACK, NS-3, and HELICS to model and synchronize communication and control layers in Linux-based simulations for power grid reliability and security research.
- Department of Electrical & Computer Engineering (ECE)

July, 2023 – June, 2024

Graduate Teaching Assistant

North South University

 - Conducted supplemental instruction and review sessions for CSE411, CSE422, and CSE482, helping students strengthen their understanding of advanced database systems, simulation, and web technologies.
 - Supported faculty with grading, course logistics, and student consultations, ensuring effective delivery of course content and academic support.

EDUCATION

- North South University
Master of Science in Computer Science and Engineering (MSc)
◦ CGPA: 3.97 / 4.00
Graduated: Summer 2020
Dhaka, Bangladesh
- North South University
Bachelor of Science in Computer Science and Engineering (BSc)
◦ CGPA: 3.24 / 4.00
Graduated: Summer 2018
Dhaka, Bangladesh

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, T=THESIS

- [J.1] **Md. Mazharul Islam**, Mubasshir Ahmed, Rajesh Palit, Mohammad Shahriar Rahman, Salekul Islam. **Fraud Detection in Privacy-Preserving Health Insurance System Using Blockchain Technology.** *Engineering Reports*, Wiley, 2025. Accepted on July 15, 2025. DOI: [10.1002/eng2.70315](https://doi.org/10.1002/eng2.70315)
- [C.9] Niaz Ashraf Khan, Md. Ferdous Bin Hafiz, **Md. Mazharul Islam**, Md. Aktaruzzaman Pramanik. **Harnessing Explainable AI to Detect Threats in DNS over HTTPS Traffic.** *16th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Indore, Madhya Pradesh, India, 2025. (Accepted & Presented)
- [C.8] Niaz Ashraf Khan, Md. Ferdous Bin Hafiz, **Md. Mazharul Islam**, Md. Aktaruzzaman Pramanik. **Enhancing Software Quality with Feature-Aware Defect Prediction Models.** *16th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Indore, Madhya Pradesh, India, 2025. (Accepted & Presented)
- [C.7] **Md. Mazharul Islam**, Mubasshir Ahmed, Md Redowan Zaman Anik, Mamunur Rashid Alex, Niaz Ashraf Khan. **Federated Fine-Tuning of Large Language Models for Cybersecurity: Towards Privacy-Preserving and Secure AI.** *16th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Indore, Madhya Pradesh, India, 2025. (Accepted & Presented)
- [C.6] **Md. Mazharul Islam**, Mubasshir Rakib, Niaz Ashraf Khan. **A Blockchain-Based Medical Record Storage System for Healthcare Data Management.** *4th International Conference on Advances in Communication Technology and Computer Engineering (ICACTCE'24)*. ICACTCE 2024. Lecture Notes in Networks and Systems, vol 1312. Springer, Cham. DOI: [10.1007/978-3-031-94620-2_24](https://doi.org/10.1007/978-3-031-94620-2_24)
- [C.5] **Md. Mazharul Islam**, Tahmid Ashraf Khan, Sunjare Zulfiker, A S M Jahid Hasan, Hafiz Abdur Rahman. **Remotely Accessible Cyber-Physical System Testbed for Power Grid's Security and Reliability.** in *8th International Conference on Smart Grid and Smart Cities (ICSGSC)*, Shanghai, China, 2024, pp. 436-441, DOI: [10.1109/ICSGSC62639.2024.10813893](https://doi.org/10.1109/ICSGSC62639.2024.10813893).
- [C.4] **Md. Mazharul Islam**, Mubasshir Ahmed, and Niaz Ashraf Khan. **Fault Detection and Diagnostics of Air Handling Unit in Hospital Building Using Machine Learning.** in *15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Kamand, India, 2024, pp. 1-6, DOI: [10.1109/ICCCNT61001.2024.10724490](https://doi.org/10.1109/ICCCNT61001.2024.10724490).
- [C.3] **Md. Mazharul Islam**, Mubasshir Ahmed, and Rajesh Palit. **Storage and Maintenance of Sensitive Data using Homomorphic Encryption.** In *16th International Conference on Security of Information and Networks (SIN)*, Jaipur, India, 2023 Nov 20, pp. 1-6, DOI: [10.1109/SIN60469.2023.10474775](https://doi.org/10.1109/SIN60469.2023.10474775).
- [C.2] **Md. Mazharul Islam**, and Rajesh Palit. **A Keyword Based Searching and Sharing Scheme on the Encrypted Cloud Data.** In *14th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Delhi, India, 2023 Jul 6, pp. 1-6, DOI: [10.1109/ICCCNT56998.2023.10308309](https://doi.org/10.1109/ICCCNT56998.2023.10308309).
- [C.1] **Md. Mazharul Islam**, Rajib Imran, and Shazzad Hosain. **The Evaluation of Enterprise Resource Planning using ISO 25010 Based Quality Model.** In *2nd International Informatics and Software Engineering Conference (IISEC)*, Ankara, Turkey, 2021 Dec 16, pp. 1-6, DOI: [10.1109/IISEC54230.2021.9672349](https://doi.org/10.1109/IISEC54230.2021.9672349).
- [T.1] **Md. Mazharul Islam**, Rajesh Palit. **A Practical Framework for Storing and Searching Encrypted Data on Cloud Storage.** arXiv preprint arXiv:2306.03547, 2023 Jun 6. DOI:[10.48550/arXiv.2306.03547](https://doi.org/10.48550/arXiv.2306.03547)

SKILLS

- **Security and Threat Analysis:** Vulnerability assessment, penetration testing, intrusion detection systems (IDS), SIEM.
- **Cryptography and Privacy:** AES, RSA, PKI, homomorphic encryption, blockchain-based protocols.
- **Security Research Techniques:** Threat modeling, formal methods, protocol verification, and attack surface analysis.
- **Cloud Platforms and Infrastructure:** Oracle Cloud Infrastructure (OCI), AWS, Azure; infrastructure automation with Terraform, Docker, and Kubernetes.
- **Operating Systems and Virtualization:** Linux (Ubuntu, CentOS, Red Hat), KVM, Hyper-V.
- **Tools and Simulators:** Wireshark, Metasploit, NS3, Burp Suite, Nmap.
- **Programming and Research Tools:** Python, Bash, Git, LaTeX.

HONORS AND AWARDS

- **Vice-Chancellor's Gold Medal, 25th Convocation** December 2024
North South University, Bangladesh
- **Reviewer, International Conference on Data, Computation, and Communication (ICDCC-2024)** November 2024
VIT Bhopal University, India
- **Reviewer, International Conference on Innovations in Data Science (ICIDS-2024)** November 2024
Manipal University Jaipur, India
- **Huawei ICT Competition 2023–2024 (Network Track)** Jan–May 2024
Huawei ICT Academy — Bangladesh, Indonesia, China
Placed 3rd in the National Round (Bangladesh).
Attended the Asia-Pacific award ceremony in Jakarta, Indonesia.
Secured 2nd place as part of a 3-member team in the Global Final (Shenzhen, China).

CERTIFICATIONS

- **AWS Certified Practitioner (CLF-C02)** [\[AWS\]](#) June, 2025
- **AWS Certified AI Practitioner (AIF-C01)** [\[AWS\]](#) June, 2025
- **AI+ Foundation™** [\[AI CERTs™\]](#) April, 2025
- **Certified Ethical Hacker (Master)** [\[EC-Council\]](#) January, 2025
- **Certified Ethical Hacker (ANSI)** [\[EC-Council\]](#) January, 2025
- **Certified Ethical Hacker (Practical)** [\[EC-Council\]](#) December, 2024
- **Oracle Cloud Infrastructure 2024 Certified AI Foundations Associate** [\[Oracle Cloud\]](#) August, 2024
- **Oracle Cloud Infrastructure 2024 Generative AI Certified Professional** [\[Oracle Cloud\]](#) July, 2024
- **Microsoft Certified: Azure Data Fundamentals** [\[Microsoft Azure\]](#) July 2023
- **Ultimate AWS Certified Solutions Architect Associate SAA-C03** [\[Udemy\]](#) December, 2022

REFERENCES

Dr. Rajesh Palit

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North South University
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Relationship: Master's Thesis Supervisor

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Relationship: PI of CPS-PMU Research Lab