

# ANIK SEN

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Malacca, 75450, Malaysia

## ABOUT ME

I am pursuing my **Master of Computing** (By Research) at **Multimedia University**, Melaka, Malaysia, with an expected completion in March 2026. I am working on an FRGS-funded research project as a **Graduate Research Assistant**. I completed my Bachelor of Science in **Computer Science & Engineering**, specializing in Software Engineering, at **American International University-Bangladesh (AIUB)**. My research interest areas are **Information Security, Machine Learning, Federated Learning, and Cryptography**.

## WORK EXPERIENCE

- **Graduate Research Assistant** 05/2024 - Current  
*Multimedia University* Melaka, Malaysia  
Responsibilities include:
  - Conducting research on privacy-preserving machine learning to secure data sharing in Federated Learning settings.
  - Integrating cryptographic techniques, including Homomorphic Encryption, to enhance data privacy.
  - Exploring applications of Generative AI and Large Language Models (LLMs).
- **Computer Science Teacher** 09/2023 - 02/2024  
*Canadian Trillinium International School* | [LOR by Course Coordinator] Dhaka, Bangladesh  
Teaching Area:
  - **Programming in Python** (Grade 9)
  - **Programming in C++** (Grade 10)
  - **Cyber Security & Technical Support** (Grade 11 & 12)
- **Research Assistant** 09/2023 - 01/2024  
*Artificial Intelligence Research and Innovation Lab (AIRIL)* Dhaka, Bangladesh
- **Cloud Computing Trainee** 06/2023 - 09/2023  
*eTech Solution Ltd.* | [Completion Certificate] Dhaka, Bangladesh

## EDUCATION

- **Master of Computing (by research)** 2024 - Current  
*Multimedia University* Melaka, Malaysia
  - Thesis: Secure Data Sharing: Innovations in Hybrid Machine Learning and Cryptography
- **Bachelor of Science in Computer Science and Engineering (CSE)** 2020 - 2023  
*American International University-Bangladesh (AIUB)* Dhaka, Bangladesh
  - **CGPA: 3.94 out of 4.00** [Dean's List Honor - Five Times] | [Certificates & Transcripts]
  - Thesis: Innovative Techniques of Data Sharing and Security for Anomaly Detection Using Novel Machine Learning Techniques
- **Higher Secondary School Certificate (HSC)** 2016 - 2018  
*Sreemangal Government College* Sreemangal, Bangladesh
  - GPA: 4.83 out of 5 | [Certificates & Transcripts]

## PUBLICATIONS

C=CONFERENCE, J=JOURNAL, S=IN SUBMISSION, U=UNDER PUBLICATION

- [J.1] **A comprehensive Review of Cryptographic Techniques in Federated Learning for Secure Data Sharing and Applications.** *IEEE Access*, doi: 10.1109/ACCESS.2025.3593953. [Q1, Scopus indexed].
- [J.2] **Preventing Student's Mental Health Problems with the Help of Data Mining.** *International Journal of Computing*, vol. 23, no. 1, pp. 101-108, Oct. 2024, doi: 10.47839/ijc.23.1.3441 [Q3, Scopus Indexed]
- [C.1] **Towards Precision Public Health: Advancing Obesity Prediction with Machine Learning Algorithms.** In *The IEEE International Conference on Industry 4.0, Artificial Intelligence, and Communications Technology (IAICT 2025)*, Bali, Indonesia, 2025, pp. 826-832, doi: 10.1109/IAICT65714.2025.11100376. [Scopus Indexed].
- [C.2] **From Data to Diagnosis: Applying Machine Learning for Reliable Heart Disease Prediction.** In *2025 The 5th Asian Conference on Information Engineering (ACIE 2025)*, Phuket, Thailand, 2025, pp. 50-56, doi: 10.1109/ACIE64499.2025.00015. [Scopus Indexed].
- [C.3] **Efficient American Sign Language Recognition using ResNet-50.** In *The 11th International Conference on Engineering, Applied Sciences and Technology (ICEAST 2025)*, Phuket, Thailand, 2025, pp. 152-158, doi: 10.1109/ICEAST64767.2025.11088186. [Scopus Indexed].
- [C.4] **Identification of Human Movement Through a Novel Machine Learning Approach.** In *2023 Innovations in Power and Advanced Computing Technologies (i-PACT)*, Kuala Lumpur, Malaysia, 2023, pp. 1-5, doi: 10.1109/i-PACT58649.2023.10434296. [Scopus Indexed]
- [U.1] **Enhancing DDoS Attack Detection Through Hybrid Ensemble Machine Learning Technique and Explainable AI.** In *The 9th International Conference on Innovation in Artificial Intelligence (ICIAI 2025)*, NTU, Singapore.
- [U.2] **A Privacy-Preserving Approach to Diabetes Diagnosis Using Artificial Neural Networks and Federated Learning Integrating Homomorphic Encryption.** In *The 5th International Conference on Computer, Information Technology and Intelligent Computing (CITIC 2025)*, Cyberjaya, Malaysia.
- [S.1] **Automated Fault Detection in Solar Panels: A Custom EfficientNetB0 Model with XAI solution for Real-Time Monitoring.** Submitted and under review at *Discover Applied Sciences*. [Q1, WoS and Scopus indexed].

## TECHNICAL SKILLS

**Programming Languages:** C, C++, Java, C#, Python, JavaScript, Php, Rust  
**Data Science Tools:** PyTorch, TensorFlow, NumPy, Scikit-Learn, Matplotlib, OpenCV  
**Web Development:** FrontEnd - HTML5, CSS3, Bootstrap5, JavaScript | BackEnd - ASP.NET  
**Software Testing tool:** Selenium  
**Database Management:** MySQL, MS SQL, PL SQL  
**Miscellaneous:** Git, L<sup>A</sup>T<sub>E</sub>X

## PARTICIPATION AND CERTIFICATIONS

### • Presenter at International Conferences

1. The 5th International Conference on Computer, Information Technology and Intelligent Computing (CITIC 2025), **Cyberjaya, Malaysia** | [Certificate] 2025
2. The 2025 IEEE International Conference on Industry 4.0, Artificial Intelligence, and Communications Technology (IAICT'2025), **Bali, Indonesia** | [Certificate] 2025
3. 2025 the 9th International Conference on Innovation in Artificial Intelligence (ICIAI 2025), **Singapore** | [Certificate] 2025
4. The 11th International Conference on Engineering, Applied Sciences and Technology (ICEAST 2025), **Thailand** | [Certificate] 2025
5. The 5th Asian Conference on Information Engineering (ACIE 2025) , **Phuket, Thailand** | [Certificate] 2025
6. 5th International Conference on Mathematics, Engineering & Industrial Applications (ICoMEIA) , **Langkawi, Malaysia** | [Certificate] 2024

### • Gold Award (two) - iNVENTX - an international innovation exhibition 2025

*Winner of two research posters I presented at iNVENTX 2025. These researches are focused on DDoS attack detection using ML and privacy-preserving diagnosis in FL integrating homomorphic encryption, respectively. [Certificate 1], [Certificate 2]*

- **1st Runner-Up in Infineon-MMU Innovative Research Poster Competition 2025 (IT-Category)** [Certificate] 2025
- **Finalist - 3-Minute Thesis (3MT) competition 2025 ( Master Level - MMU)** [Certificate] 2025
- **Gold Award - iNVENTX - an international innovation exhibition 2024** 2024

*Winner of a research poster I presented at iNVENTX 2024. The research focused on predicting human choice preferences in the chatbot arena. [Certificate]*

### • CNN Architectures in Industrial Applications

*A five-day long training by AI Nusantara in physical mode, ending with a capstone project which is published in IEEE Explore | [Certificate]* 2024

### • National Research Fair-2023, CUET, Bangladesh

*Participated with a selected research article titled "Revolutionizing Water Quality Assessment in Bangladesh: A Novel Hybrid Model Outperforming Conventional Classifiers." | [Certificate]* 2023

### • DUET TechFest 2k23

*Winner of the segment of the Idea & Project Exhibition, project titled: Sign Language to Speech Converter. | [Certificate] | [Trophy]* 2023

### • Orbitax SUST SWE Technovent 2023 (Brain Station 23 Hackathon)

*Successfully passed the first round and participated in the final round at SUST campus for a 36-hour non-stop onsite hackathon. | [Certificate]* 2023

### • Cisco IT Essentials

*Successfully achieved the student level credential by completing the IT Essentials course. | [Certificate]* 2020

## HONORS AND AWARDS

### • Magna Cum Laude (Silver Medal) | [Qualifications & Criteria]

*22nd Convocation, American International University-Bangladesh (AIUB)* 2025

### • High Achiever Research Scholarship for Postgraduate Programs | [Confirmation Letter]

*Multimedia University, Melaka, Malaysia* 2024

### • FST Dean's List Honor

*American International University-Bangladesh* 2023

◦ Based on academic excellence. [Five Times for Five Consecutive Academic Sessions] | [Certificates]

### • Emerging Leader Award 2024

*Bangladesh* 2024

◦ Based on the top-performing academic excellence of undergraduate programs. | [Certificate]

### • AIUB Academic Scholarship

*American International University-Bangladesh* 2021-2023

◦ Based on academic results. [Till Last Semester]

## EXTRA-CURRICULAR ACTIVITIES

- Campus Ambassador [Team Lead] at ICT Olympiad Bangladesh 2022 (Season 1) | [Certificate]
- The Duke of Edinburgh's International Award (**Bronze**)
- Volunteer at **Bangladesh Red Crescent Society** | [LOR By Chief of the Training & Co-curricular Department]

## REFERENCES

### 1. Prof. Ts. Dr. Heng Swee Huay

Professor, Faculty of Information Science and Technology,  
Multimedia University, Malaysia  
Email: shheng@mmu.edu.my

### 2. Mr. Tanvir Ahmed

Assistant Professor, Faculty of Science and Technology,  
American International University-Bangladesh  
Email: tanvir.ahmed@aiub.edu