

NAZMUL HUDA BADHON

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EDUCATION

Bachelor	Daffodil International University, Computer Science and Engineering CGPA: 3.88/4.00	Spring 2022–Fall 2025 Dhaka, Bangladesh
	Exchange Semester: Dongseo University, Computer Engineering GPA: 3.94/4.50 (93.25%)	Fall 2023 Busan, South Korea

RESEARCH INTERESTS

Deep Learning, Machine Learning, Medical AI.

RESEARCH PUBLICATIONS

JOURNAL PUBLICATION

Research Articles

1. **Nazmul Huda Badhon**, Imrus Salehin, Md. Tomal Ahmed Sajib, Md. Sakibul Hassan Rifat, S M Noman, Nazmun Nessa Moon. "[TLCNN: Tabular data-based Lightweight Convolutional Neural Network for Electricity Energy Demand Prediction](#)." on Global Energy Interconnection, 14 November 2025. ISSN: 2590-0358, Elsevier.
2. Md. Tomal Ahmed Sajib, **Nazmul Huda Badhon**, Imrus Salehin, Md. Sakibul Hassan Rifat, Faysal Ahmmed, Nazmun Nessa Moon. "[A comparative deep learning methodology for plant insect image classification: assessment of CNN architectures and augmentation techniques](#)" on MethodsX, 103680, 17 October 2025. ISSN: 2215-0161, Elsevier.

Review Articles

3. Imrus Salehin, Md. Tomal Ahmed Sajib, **Nazmul Huda Badhon**, Md. Sakibul Hassan Rifat, Nazrul Amin, Nazmun Nessa Moon. "[Systematic Literature Review of LLM in Medical: Digital Health, Technology and Applications](#)." on Engineering Reports 7.9: e70365, 12 September 2025. ISSN: 2577-8196, Wiley.
4. Imrus Salehin, **Nazmul Huda Badhon**, Md. Tomal Ahmed Sajib, Nazmun Nessa Moon. "Secure Medical AI: Federated Learning and Large Language Models for Medical Intelligence.", on Engineering Reports, Wiley. [Submitted](#)

Data Articles

5. Imrus Salehin, **Nazmul Huda Badhon**, Md. Tomal Ahmed Sajib, Nazmun Nessa Moon. "[DeepUS-ReconSeg: A Multi-Angle Paired B-Mode Ultrasound Dataset for Medical Imaging Reconstruction and Segmentation](#)." on Data in Brief, 112083, 19 September 2025. ISSN 2352-3409, Elsevier.
6. Imrus Salehin, **Nazmul Huda Badhon**, Md. Tomal Ahmed Sajib, Mohd Saifuzzaman, Nazmun Nessa Moon. "[IQ-UltraRecon: Demodulated IQ Ultrasound Dataset of Human Hand and Arm Tissue for Deep Learning-Based Reconstruction](#)." on Data in Brief, 112001, 22 August 2025. ISSN 2352-3409, Elsevier.
7. Imrus Salehin, Mahbubur Rahman Khan, Ummya Habiba, **Nazmul Huda Badhon**, Nazmun Nessa Moon. "[BAU-Insectv2: An Agricultural Plant Insect Dataset for Deep Learning and Biomedical Image Analysis](#)." on Data in Brief, 110083, 23 January 2024. ISSN: 2352-3409, Elsevier.

BOOK CHAPTER

8. Imrus Salehin, **Nazmul Huda Badhon**, Md. Tomal Ahmed Sajib, Md. Sakibul Hassan Rifat, Nazmun Nessa Moon. "Predicting Peak Energy Demand Using Machine Learning Techniques for Efficient Electricity Supply Management." on Engineering Applications of AI for Demand Forecasting, Taylor & Francis. [Accepted on 24 April 2025. \(in press\).](#)

PROJECTS

1. [Breast Cancer: Segmentation-Guided Hybrid Classification](#)

- Built a two-stage U-Net and CNN-based hybrid model on BUSI datasets.
 - Achieved strong performance on accuracy and ROC metrics.
2. [Lung-Colon Histopathology: Image Enhancement & Transfer Learning](#)
- Applied preprocessing techniques on histopathology images and evaluated multiple transfer learning models.
 - Identified the best-performing model by accuracy and F1-score.
3. [Medical Image Preprocessing & Quality Analysis with Vision Transformer](#)
- Designed preprocessing workflows for medical images and performed classification with ViT
 - Achieved 87% testing accuracy and improved transformer performance.

TECHNICAL SKILLS

- **Programming:** Python, C, Java
- **Deep Learning Algorithms:** Intermediate
- **Frameworks:** TensorFlow, PyTorch, Keras, Scikit-learn, OpenCV
- **Data Analysis:** NumPy, Pandas, Matplotlib, Seaborn
- **Tools:** GitHub, Google Colab, LaTeX

AWARDS AND LEADERSHIP

Academic

- Awarded a fully funded [Global Korea Scholarship \(GKS\)](#) for Exchange Study at Dongseo University by the Government of the Republic of Korea. *Fall 2023*
- Received a [Special Scholarship](#) for academic results from Daffodil International University. *Spring 2022–Fall 2025*

Research

- Received a [Research Award](#) from the Division of Research, Daffodil International University. *2024*
- Served as a [peer reviewer](#) for *Digital Health* (SAGE Publishing) and received an official reviewer certificate. *2025*

Leadership

- Led a team of [20 students](#) in an International Camp at Dongseo University, South Korea. *2023*
- Completed the [Volunteer Internship Program](#) under the International Affairs, DIU *2024*

REFERENCES

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