europass

Sayemuzzaman Siam

Home : Dhaka, Bangladesh

Email: sayemuzzam505@gmail.com **Phone:** (+880) 1643960591

Website: https://sayemuzzamansiam.medium.com

Website: https://github.com/sayemuzzamansiam

Website: https://sayemuzzamansiam.github.io

LinkedIn: https://www.linkedin.com/in/sayemuzzamansiam/

Nationality: Bangladeshi

ABOUT ME

Computer Science and Engineering graduate with strong academic training in machine learning, deep learning, and data-driven modeling. Research experience includes peer-reviewed publications in computer vision, explainable AI, and intelligent energy systems, along with an undergraduate thesis on Bangla natural language processing. Hands-on experience in developing AI systems using modern deep learning frameworks and large language models in both academic and applied settings. Seeking admission to an MSc program in Computer Science to strengthen theoretical foundations and pursue research-oriented study.

WORK EXPERIENCE

Sayemuzzaman Siam https://betopiagroup.com/

City: Dhaka | **Country:** Bangladesh | **Name of unit or department:** AI

[03/06/2025 – 08/12/2025] **AI Developer, Betopia Group, Bangladesh**

- Led multi-disciplinary teams (AI, design, frontend, backend) on AI-focused projects, managing technical architecture and coordinating development workflows.
- Developed production AI systems using Python, FastAPI, and LLM APIs including context-aware chatbots, business consulting tools, and voice automation platforms.
- Implemented NLP-based conversational AI and text-to-speech pipelines with integrated speech recognition for quality assessment.
- Conducted research and experimentation with large language models, prompt engineering, and API optimization for real-time applications.

EDUCATION AND TRAINING

[2019 – 2024] **Bachelor of Science**

East West University https://www.ewubd.edu/

City: Dhaka | **Country:** Bangladesh | **Field(s) of study:** Computer Science and Engineering | **Final grade:** 3.04 out of 4 | **Thesis:** Emotion Detection from Bangla Text

Relevant Coursework:

- **Core CS:** Data Structures & Algorithms, Computer Networks, Operating Systems, Database Systems, Software Engineering
- **AI & ML:** Artificial Intelligence, Machine Learning, Digital Image Processing, Big Data Analytics, Linear Algebra, Statistics for Data Science
- **Security & Systems:** Computer and Cyber Security

[2016 – 2019] **Higher Secondary School Certificate**

Dhaka Imperial College

City: Dhaka | **Country:** Bangladesh | **Field(s) of study:** Science

[2014 – 2015] **Secondary School Certificate**

National Ideal School and College

City: Dhaka | **Country:** Bangladesh | **Field(s) of study:** Science

SKILLS

Programming & Databases

Python | C++ | Java | SQL | FAISS | MySQL | ChromaDB

Machine Learning and Data Science

Scikit-Learn | TensorFlow | Keras | Pandas | Seaborn | Matplotlib

Tools and Platforms

FastAPI | Flask | Git | Visual Studio Code | Kaggle | Google Colab | Render | Docker

PUBLICATIONS

Explainable Artificial Intelligence for Deep Learning-Based Detection of Pneumonia in Chest X-ray Images

The paper was published by Springer Nature in Innovations in Data Analytics.

Authors: Md Jihad, Sayemuzzaman Siam, Lotifa Akan Anannya, Fazle Rifat Anonto, KM Safin Kamal, Ahmed Wasif Reza | **Journal Name**: Innovations in Data Analytics | **Publisher**: Springer Nature

[2025] **Robust Fault Diagnosis in Photovoltaic Systems: A Multi-Signal Deep Learning Approach with Res-CNNs and GRUs for Enhanced Reliability**

The paper has been accepted for publication in the IEEE ICCIT 2025 conference proceedings and will appear in IEEE Xplore.

Authors: Mithila Arman, Sayemuzzaman Siam, Zahinul Haque Chowdhury, Koishik Ahmed, Sayed Saifur Rahman, Md. Minhajul Islam | **Journal Name**: 2025 28th International Conference on Computer and Information Technology (ICCIT) | **Publisher**: IEEE

[2025] **Machine Learning for Future-Proof Smart Grids: A Framework for Predicting Stability and Efficiency**

This paper is accepted for publication in the IEEE ICCIT 2025 conference proceedings to appear in IEEE Xplore.

Authors: Morium Akter Munny, Mithila Arman, Md. Mahmudul Hasan Reza, Sayemuzzaman Siam, Sayed Saifur Rahman, Hasanur Zaman Anonto | **Journal Name**: 2025 28th International Conference on Computer and Information Technology (ICCIT) | **Publisher**: IEEE

PROJECTS

Image Caption Generator (Multi-model)

- Implemented CNN-LSTM based image captioning models using VGG16, ResNet50, and EfficientNet.
- Evaluated model performance on Flickr8k and Flickr30k datasets using BLEU scores.
- **Technologies:** TensorFlow, Keras, NumPy | **Link:** GitHub

Pneumonia Detection in Chest X-Rays and Explainable AI

- Built a deep learning classifier for pneumonia detection from chest X-ray images using EfficientNet.
- Applied explainable AI techniques (Grad-CAM, LIME, Integrated Gradients) for model interpretability.
- **Technologies:** Python, TensorFlow, Keras, XAI | **Link:** GitHub

Bangla Text Classification

- Developed a multi-class Bangla news classification system using traditional ML, deep learning, and transformer models.
- Achieved 97% accuracy with Bangla-specific BERT; applied LIME for feature interpretability.
- **Technologies:** Python, TensorFlow, Hugging Face, scikit-learn | **Link:** GitHub

Generative AI with Retrieval-Augmented-Generation (RAG)

- Built a book recommender system and chatbot using Retrieval-Augmented Generation with vector search.
- Integrated FAISS for document retrieval and large language models for response generation.
- **Technologies:** LangChain, Hugging Face, FAISS, Python | **Link:** GitHub

Neural Network from Scratch

- Implemented a fully connected feed-forward neural network using only NumPy.
- Gained in-depth understanding of backpropagation, optimization, and loss functions.
- **Technologies:** Python, NumPy | **Link:** GitHub

Hands-on Security Setup

- Performed practical implementation of fundamental network and system security configurations in a controlled lab environment.
- Gained hands-on experience with secure system setup, access control, and basic hardening techniques.
- Explored core cybersecurity concepts including threat awareness, penetration testing fundamentals, and defensive mechanisms.
- Applied security best practices aligned with academic coursework in cybersecurity and system protection.
- **Technologies:** Network Security Tools, Linux, Security Configuration, Cybersecurity Fundamentals | **Link:** GitHub

University Network Design

- Designed and simulated a full-fledged university-scale network with multiple campuses and subnets using Cisco Packet Tracer.
- Implemented inter-campus routing, switching, and subnetting with Class A, B, and C IP address ranges for scalability.
- Configured centralized network services including DHCP, DNS, and web servers to enable automated IP allocation and domain-based access.
- Integrated wired and wireless LANs to support heterogeneous client connectivity across campuses.
- **Technologies:** Cisco Packet Tracer, Routing & Switching, DHCP, DNS, HTTP, TCP/IP | **Link:** GitHub

CREATIVE WORKS

Technical AI Writer (Medium)

- **Technical Communication:** Authored a series of educational articles on Deep Learning and Machine Learning fundamentals for a global audience.
- **Core Topics:** Published deep dives into Convolutional Neural Networks (CNNs), Model Evaluation (Overfitting/Underfitting), and Algorithm Classification.
- **Simplifying Complexity:** Translated abstract mathematical theories into practical insights using intuitive analogies and high-level architectural overviews.
- **Research Bridge:** Leveraged technical writing to document project methodologies and bridge the gap between academic research and coding implementation.

Link: https://medium.com/@sayemuzzamansiam

LANGUAGE SKILLS

Mother tongue(s): Bangla

Other language(s):

English (IELTS: 7.5)

LISTENING C1 **READING** C2 **WRITING** B2

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

RECOMMENDATIONS

Name: Dr. Ahmed Wasif Reza Professor Department of Computer Science & Engineering, East West University

Relationship: Course Instructor, and Research Paper Supervisor.

Email: wasif@ewubd.edu

Name: Dr. Shamim H Ripon
Professor, Department of Computer Science & Engineering, East West University, Dhaka, Bangladesh

Relationship: Course and Project Instructor.

Email: dshr@ewubd.edu

Name: Rashedul Amin Tuhin Senior Lecturer, Department of Computer Science & Engineering, East West University

Relationship: Academic Advisor, Course and Project Instructor.

Email: mcctuhin@ewubd.edu