

Faiaz Hasanuzzaman Rhythm | Curriculum Vitae

Personal Information

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ResearchGate: www.researchgate.net/profile/Faiaz-Rhythm?ev=hdr_xprf

Google Scholar: scholar.google.com/citations?user=d93nMEEAAAAJ&hl=en

ORCID: orcid.org/0009-0006-2919-0129

Education

Military Institute of Science and Technology

B.Sc in Electrical, Electronic and Communication Engineering

CGPA: 3.93

Spring 2024: 4.00, Fall 2024: 3.96

Spring 2023: 4.00, Fall 2023: 3.98

Spring 2022: 3.87, Fall 2022: 4.00

Spring 2021: 3.68, Fall 2021: 3.89

Dhaka

2021–2025

Saint Joseph Higher Secondary School

Higher Secondary Certificate (HSC)

GPA: 5.00

Dhaka

2020

Mohammadpur Preparatory School and College

Secondary School Certificate (SSC)

GPA: 5.00

Dhaka

2018

Research Experiences

Journal Articles

- **A Novel Dual Attention Approach for DNN Based Automated Diabetic Retinopathy Grading**, *International Journal of Imaging Systems and Technology*, 2024. DOI
- **SEA-Net: Dual Attention U-Net for Bleeding Segmentation in Capsule Endoscopy Images**, *International Journal of Imaging Systems and Technology*, Under Major Revision.
- **MAGnet: Multiscale Attention Guided Network for Enhanced Road Extraction from Satellite Imagery**, *International Journal of Intelligent Systems*, Submitted.
- **UAPNet: Uncertainty Augmented Pyramid Vision Transformer with Filtered Channel Attention for Robust Polyp Segmentation**, *Biomedical Signal Processing and Control, Elsevier*, Submitted.

Conference Articles

- **A Transformer-based Text-Guided Approach for Improved Colonoscopic Polyp Segmentation**, *ICAEEE*, 2024. DOI
- **Utilizing Reverse Attention for Enhanced Mitochondria Segmentation in Microscopic Images**, *ECCE*, 2025. DOI
- **Optimizing Monocular Depth Estimation through Bi-Level Nested Architecture Integration**, *ECCE*, 2025. DOI
- **Bridging Classical and Quantum Models via Attention-Guided Feature Distillation**, *NCIM*, 2025. DOI
- **Enhancing U2Net for Precise Road Extraction from Satellite Images via Channel Refinement**, *QPAIN*, 2025. DOI
- **YESnet: YOLOv11 Enabled SAM-2 Framework for Memory-Efficient Skin Lesion Segmentation**, *QPAIN*, 2025. DOI

- **DoubleUNet++: Channel-Aware Gated Attention for Road Extraction in Satellite Imagery**, *QPAIN*, 2025. DOI
- **UAPNet: Uncertainty Augmented Pyramid Vision Transformer Network With Efficient Channel Filtering for Polyp Segmentation**, *TEHI*, 2025. (Accepted)
- **Investigating Adversarial Resilience of Popular Models For Polyp And Skin Lesion Segmentation**, *TEHI*, 2025. (Accepted)
- **Performance Analysis of Semi-Supervised Frameworks for Polyp Segmentation**, *TEHI*, 2025. (Accepted)
- **Real-Time Crop Disease Detection on Autonomous Drones Using NCNN-Optimized YOLO Models**, *STI*, 2025. (submitted)
- **SAM-Augmented Blending for Enhanced Microplastic Detection Using YOLO11**, *STI*, 2025. (Submitted)
- **Performance Analysis of Optimization Techniques Implemented on the AVR System using MATLAB Simulink**, *ICCIT*, 2025. (Submitted)

Book Chapters

- **Transformer Enhanced Graph Based Spatial Domain Identification From Gene Expression Profiling**, *BIM*, 2025. (Presented)
- **Multi-Modal Graph Based Self-Supervised Spatial Clustering Through Spatially Transcriptomics Data**, *BIM*, 2025. (Presented)
- **Ensemble Based Graph Attention Auto-Encoder Architecture For Unsupervised Spatial Clustering**, *BIM*, 2025. (Presented)
- **Performance Analysis of Graph Based Domain Discovery From Stereo-Seq and Slide-Seq Data**, *BIM*, 2025. (Presented)

Thesis

Title: ADVANCING STACKED U-NETS WITH CROSS-STAGE ATTENTION FOR PRECISE ROAD MAPPING IN REMOTE SENSING

Supervisor: Lt Col Hussain Md Abu Nyeem, PhD, Associate Professor, Dept. of EECE, MIST

Email: h.nyeem@eece.mist.ac.bd | Phone: +880 1769023978

Work Experience

2024: Industrial Training at Mango Teleservices Ltd.

2024: Industrial Training at Grameenphone Ltd. (Feb–Mar)

Professional Affiliations

Chair: IEEE MIST Student Branch (Jul 2024 – Jul 2025)

Ambassador: IEEE Bangladesh Section (Aug 2024 – Jul 2025)

Campus Ambassador: Grameenphone Academy (Sep 2024 – Apr 2025)

Campus Ambassador: SPAC-24 (Nov 2024 – Dec 2024)

Team Leader: MIST Innovation Club (ML & Micro-Controller) (May – Jul 2024)

Instructor: Workshop on L^AT_EX (Oct 2024, IEEE MIST SB)

Volunteer: ICEEICT 2024 Website Dev. & Maintenance (Sep 2023 – May 2024)

Awards & Achievements

2024: Volunteer & Host, ICCIT 2024 (IEEE BD Section)

2024: Volunteer & Host, RAAICON 2024 (IEEE BD Section, Robotics & IRAB)

2024: Outstanding Volunteer, ICEEICT 2024 Website (EECE, MIST)

2024: LinkedIn Learning – Data Analytics Foundations [Certificate]

2024: LinkedIn Learning – Data Literacy: Exploring Data [Certificate]

2024: LinkedIn Learning – Excel: Data Analysis [Certificate]

2023: Dean's List – CGPA 3.99 (2021–22)

2023: Udemy – Machine Learning A-Z [Certificate]

2022: Dean's List – CGPA 3.93 (2020–21)

2022: Python: Beginner to Advance, EECE, MIST

Technical Skills

Languages: MATLAB, Python, C, Assembly, HTML, R, Django

Simulation Tools: CST Studio, PSpice, OrCAD, Proteus, Cadence, Verilog, Microwind, DSCH2, EMU8086

CAD: AutoCAD

Office Tools: MS Word, Excel, PowerPoint, Project

Expertise: Machine Learning, Deep Learning, AI (TensorFlow, PyTorch)

Reference

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