MD. NAIMUR ASIF BORNO

+8801860460298 naimur.ruet@gmail.com linkedin.com/in/naimurborno github.com/naimurborno naimurborno

EDUCATION

Rajsahi University of Engineering and Technology **Feb 2019 - April 2024**
Bachelor of Science in Mechatronics Engineering *Rajshahi, Bangladesh*
***CGPA:** 3.44/4.00*
***Last 4 semester avg. CGPA:** 3.64/4.00*

RESEARCH INTERESTS

Medical Image Generation & Classification, Diffusion Models, Image Editing & Inpainting, Vision Transformers & Attention Mechanisms, Image-to-Image Translation, Continual Learning & Knowledge Distillation,

RESEARCH EXPERIENCE

Research Assistant **Nov 2024 - Ongoing**
Supervisor: ***Dr. Mohammad Ali Moni***
Faculty of Health, Medicine and Behavioural Sciences
The University of Queensland
308 Queen St, Brisbane City, QLD 4000, Queensland, Australia

Research Topic: 1

- Decentralized LoRA Augmented Transformer with Context-aware Multi-scale Feature Learning for Secured Eye Diagnosis (**Knowledge-based Systems, IF 7.6**)
- Designed a decentralized LoRA-enhanced transformer framework incorporating context-aware multi-scale feature learning for privacy-preserving and accurate eye disease diagnosis from retinal imagery.

Research Topic: 2

- KDC-Diff: A Latent-Aware Diffusion Model with Knowledge Retention for Memory-Efficient Image Generation. (**Under Review at Scientific Reports**).
- Proposed a latent replay-based continual learning strategy with dual-layered knowledge distillation and a lightweight U-Net architecture for efficient and memory-stable text-to-image diffusion training across sequential tasks.

Research Topic: 3

- Developing a frequency-aware diffusion framework that fuses multi-image frequency components and injects prompt-based attention maps for controllable, structure-style-semantic disentangled image synthesis.
- **Targeted Venue: Upcoming A^* Conference.**

Research Assistant **Aug 2024 - Dec 2024**
Advance Machine Intelligence Research Lab (https://amirl.org/) *Dhaka,Bangladesh*
School of Computer Science and Engineering
University of Aizu

Research Topic:

- Percept-Diff: Innovations in Stable Diffusion for High-Fidelity IHC Image Generation in HER2 Breast Cancer Incorporating Perceptual Loss
- Developed an advanced Stable Diffusion-based framework for high-fidelity IHC image synthesis in HER2 breast cancer by incorporating perceptual loss functions (e.g., VGG-based) to enforce structure-preserving generation, enabling enhanced tissue texture reconstruction, diagnostic consistency, and visual realism across clinically relevant biomarkers.
- Published on 2024 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT)

RESEARCH PUBLICATIONS

***Borno, M.N.A.**, Shovon, M.S.H., Sikder, M.D., Rimi, I.F., Alahmadi, T.J. and Moni, M.A., 2025. **Decentralized LoRA Augmented Transformer with Context-aware Multi-scale Feature Learning for Secured Eye Diagnosis. Knowledge-Based Systems**—Link.*

***Borno, M.N.A.**, Shovon, M.S.H., Al-Moisheer, A.S. and Moni, M.A., 2025. **KDC-Diff: A Latent-Aware Diffusion Model with Knowledge Retention for Memory-Efficient Image Generation.** Under review at **IEEE Open Journal of the Computer Society**—Preprint.*

***M. N. A. Borno**, M. T. Raihan, A. Ahmed, M. S. H. Shovon, J. Shin and M. F. Mridha, **"Percept-Diff: Innovations in Stable Diffusion for High-Fidelity IHC Image Generation in HER2 Breast Cancer Incorporating Perceptual Loss**," 2024 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT), Sakhir, Bahrain, 2024, pp. 520-526, https://doi.org/10.1109/3ict64318.2024.10824425.*

***Borno, N.**, Mazumder, D., and Ghosh, A., 2023, December. **The Categorization of Surface Irregularities Presents on the Hot-Rolled Steel Strip, Encompassing Six Distinct Types of Surface Anomalies, Achieved through the Implementation of Vision Transformer.** In 6th Industrial Engineering and Operations Management Bangladesh Conference, https://doi.org/10.46254/BA06.20230101.*

Professional Experience

The Sparks Foundation (Remote) **Jan 2023 – Mar 2023**
Data Analyst And Business Analytics Intern *Singapore*
Forbs Marshall **Jun 2022 – Aug 2022**
Intern *Dhaka,Bangladesh*

Language Proficiency

IELTS Academic: Overall Band Score 7 **May**
Listening: 7.5, Reading: 7, Writing: 6.5, Speaking: 6 *2025*

Technical Competencies

Programming Python, C++, Java
ML Libraries Data analysis, Scikit-Learn, NumPy, Pandas, Matplotlib, Seaborn, Matlab etc.
Cloud AWS, Azure, GCP, Mlflow, Fast Api, Streamlit etc.
Vision Diffusers, Transformers, PIL, OpenCV, Model Development, CNN, Generative ai, Object Detection, Segmentation etc.
Miscellaneous Git, Github, Latex, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Adobe Illustrator etc.

Specialized Courses

Coursera Exploratory Data Analysis for Machine Learning (Certificate)
Coursera introduction to Tensorflow for Artificial Intelligence,Machine Learning and Deep Learning(Certificate)
Coursera Statistics for Data Science with Python (Certificate)
Coursera Neural Networks and Deep Learning(Certificate)
Deep Learning.ai Convolutional Neural Networks in Tensorflow(Certificate)
Deep Learning.ai Custom Models, Layers and Loss Functions with Tensorflow(Certificate)
Coursera Generative Ai

Awards & Honors

Face The Case 3.0 **Top 10**
IEEE CUET Student Branch *2023*
Cognizent 2.0 **Top 8**
Ruet, IPE Club *2023*
Internship Completion **2023**
Forbs Marshall
Data Science and Bussiness Analytics Internship Completion **2023**
The Sparks Foundation

References

Dr. Mohammad Ali Moni
School of Health and Rehabilitation Sciences
Faculty of Health, Medicine and Behavioural Sciences
The University of Queensland
308 Queen St, Brisbane City, QLD 4000, Queensland, Australia.
Email: m.moni@uq.edu.au

Md. Faisal Rahman Badal
Assistant Professor
Department of Mechatronics Engineering
Rajshahi University of Engineering & Technology (RUET)
Rajshahi - 6204, Bangladesh
Email: faisalrahman@mte.ruet.ac.bd