Sharia Arfin Tanim

CONTACT INFORMATION

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RESEARCH INTERESTS

Machine Learning ‖ Computer Vision ‖ Deep Learning ‖ Federated Learning ‖ Interpretable AI

EDUCATION

American International University-Bangladesh
BSc. in Computer Science and Engineering   Nov. 2019 - Aug. 2024

Thesis: "Mud Crab Farming Profits and Growth with Machine Learning, Explainable AI and IoT-Based Systems in Coastal Aquaculture," Dec. 2023.
Advisor: Prof. Dr. Kamruddin Nur

PROFESSIONAL EXPERIENCE

Advanced Machine Intelligence Research Lab
Research Assistant   Dec. 2023 - Present
Learnify Research Lab (LRL)
Founder   Dec. 2023 - Present
GAO Tek Inc
IT Support & Development   Sept. 2023 - Dec. 2023
(UCH) Research Group-AIUB
Student Research Assistant   Jun. 2023 - Sep. 2023

CURRENT RESEARCH

- Federated Learning-Driven Ovarian Cancer Classification Using Graph Attention Networks and Diffusion Models

PROJECT

Sinchan Education and Rural Entrepreneurship Foundation (SINCHAN) (Jan. 2024- Mar. 2024)

- Worked on 'Project Kurumutu' conducted skill development classes for a student from a marginalized background.

SELECTED PUBLICATIONS

Journals

[J5] **Sharia Arfin Tanim**, Al Rafi Aurnob, M. F. Mridha, Mejdl Safran, Sultan Alfarhood, and Dunren Che. "Secure Federated Learning for Parkinson's Disease: Non-IID Data Partitioning and Homomorphic Encryption Strategies." *IEEE Access*, Published, 2024 [impact factor: 3.4].

[J4] Rubaba Binte Rahman, **Sharia Arfin Tanim**, Nazia Alfaz, Tahmid Enam Shrestha, Md Saef Ullah Miah, and M. F. Mridha. "A Comprehensive Dental Dataset of Six Classes for Deep Learning Based Object Detection Study." *Data in Brief*, Published, 2024 [impact factor: 1.0].

[J3] **Sharia Arfin Tanim**, Al Rafi Aurnob, Tahmid Enam Shrestha, MD Rokon Islam Emon, M.F. Mridha, and Md Saef Ullah Miah. "Explainable deep learning for diabetes diagnosis with DeepNetX2." *Biomedical Signal Processing and Control*, Published, 2024 [impact factor: 4.9].

[J2] Hamim Reza, Nazrul Islam Tareq, M M Fazle Rabbi, **Sharia Arfin Tanim**, Rifat Al Mamun Rudro, and Kamruddin Nur, "Acute Lymphoblastic Leukemia Diagnosis and Subtype Segmentation in Blood Smears using CNN and U-Net." *Indonesian Journal of Electrical Engineering and Computer Science,* Accepted, 2024 [impact factor: 1.85].

[J1] **Sharia Arfin Tanim**, Kazi Tanvir, Al Rafi Aurnob, Md. Hasibur Rahman, Tasmia Binte Munir Maisha, and Kamruddin Nur, "Enhancing Monkeypox Diagnostics: Exploring the Potential of EfficientNet and Big Transfer." *Journal of Image and Graphics*, Published, 2024 [Acceptance rate: 19.0%].

Conferences

[C7] **Sharia Arfin Tanim**, Al Rafi Aurnob, MD Rokon Islam, Md Saef Ullah Miah, M. Mostafizur Rahman, and Mufti Mahmud, "Explainable Federated Stacking Models with Encrypted Gradients for Secure Kidney Medical Imaging Diagnosis." *31st International Conference on Neural Information Processing (ICONIP)*, Accepted, 2024.

[C6] **Sharia Arfin Tanim**, Tahmid Enam Shrestha, Kazi Tanvir, Md. Sayem Kabir, M. F. Mridha, and Mohamed Kaisarul Haq, "Single-Level Fusion for Enhancing Meat Quality Classification with Explainable AI." *2024 IEEE Conference on Computing Applications and Systems (COMPAS)*, Accepted, 2024.

[C5] **Sharia Arfin Tanim**, Rubaba Binte Rahman, Kazi Tanvir, Md. Sayem Kabir, Tasnim Sultana Sintheia, and Md Saef Ullah Miah. "Explainable Detection and Analysis of Cauliflower Leaf Diseases." *12th International Conference on Big Data and Artificial Intelligence (BDA 2024)*, Accepted, 2024.

[C4] Fahim Faysal Sakib, Sultan Mohiuddin Shawon, **Sharia Arfin Tanim**, Shahnaj Parvin, and Kamruddin Nur, "An E-Commerce Website Accessibility Issue Detection and Evaluation System." *15th International Conference of Human-Computer Interaction (HCI) Design & Research*, Accepted (Poster), 2024.

[C3] **Sharia Arfin Tanim**, Gazi Mohammad Imdadul Alam, Tahmid Enam Shrestha, Maruful Islam, Fariha Jahan, Kamruddin Nur, "Breast Cancer Diagnosis with XAI-Integrated Deep Learning Approach." *2024 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT),* Accepted, 2024.

[C2] Md. Tarek Chowdhury, **Sharia Arfin Tanim**, Tahmid Enam Shrestha, Md. Fahim Hossain, and Muhibul Haque Bhuyan, "Enhancing Electoral Integrity: A Multi-Layered Approach to Electronic Voting Security Using Arduino and Biometric Authentication." *5th International Conference on Data Analytics & Management (ICDAM)***,** Accepted, 2024 [Acceptance rate: 20.0%].

[C1] **Sharia Arfin Tanim**, Al Rafi Arnob, Tahmid Enam Shrestha, Tamimul Alam, and Kamruddin Nur, "Enhancing blood cell classification by applying big transfer and XAI." *5th Doctoral Symposium on Computational Intelligence (DOSCI)*, Accepted, 2024 [Acceptance rate: 20.0%].

FUNDING