Sharia Arfin Tanim

CONTACT INFORMATION

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RESEARCH INTERESTS

Machine Learning	Computer Vision	Federated Learning	Interpretable AI

EDUCATION

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

<u>Thesis</u>: *Mud Crab Farming Profits and Growth with Machine Learning, Explainable AI, and IoT-Based Systems in Coastal Aquaculture*, Jan. 2024
<u>Advisor</u>: 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 - Sept. 2023

CURRENT RESEARCH

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

PROJECT

Sinchan Education and Rural Entrepreneurship Foundation   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, Tahmid Enam Shrestha, MD Rokon Islam Emon, M.F. Mridha, and Md Saef Ullah Miah. "Explainable Deep Learning for Diabetes Diagnosis with Deep-NetX2." *Biomedical Signal Processing and Control*, Published, 2024 [impact factor: 4.9].

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, 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].

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

C8   **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.

C7   **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.

C6   **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.

C5   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.

C4   **Sharia Arfin Tanim**, Gazi Mohammad Imdadul Alam, Tahmid Enam Shrestha, Maruful Islam, Fariha Jahan, and 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.

C3   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%].

C2   **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%].

C1   Zuhair Ahmed, **Sharia Arfin Tanim**, Fariya Sultana Prity, Hasibur Rahman, and Tasmia Binte Munir Maisha, "Improving Biomedical Image Segmentation: An Extensive Analysis of U-Net for Enhanced Performance." Second International Conference on Emerging Trends in Information Technology and Engineering (ICETITE), Published, 2024 [Acceptance rate: 19.18%].

FUNDING

King Saud University, Riyadh, Saudi Arabia

REFERENCES

Will be provided upon request.