MD Tanvir Islam

COMPUTER VISION RESEARCHER · FULL-STACK DEVELOPER

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PROFILE

I'm a computer vision researcher focused on Medical Image Analysis. As a master's researcher at Chongqing University, I developed deep-learning methods for skin lesion segmentation and classification. Currently, I work as a full-stack developer at KI-Quadrat, building AI-integrated web applications.

Research interests: Computer Vision · Medical Image Analysis · Medical Foundation Models

EXPERIENCE

Full-Stack Web Developer Feb 2026 – Present
KI-Quadrat Systemhaus GmbH · Remote · HQ Austria
Leading full-stack development of an AI-powered web application (Next.js, React, TypeScript) and contributing to its RAG system.

Web Developer Intern Oct 2025 – Jan 2026
KI-Quadrat Systemhaus GmbH · Remote · HQ Austria
Full-stack work with Next.js, Node.js, Convex and PostgreSQL on the core product.

Graduate Researcher – Deep Learning & Medical Image Analysis Sep 2022 – Sep 2025
Chongqing University · Supervisor: Assoc. Prof. Yunfei Yin
Developed MRLSA-Net for skin lesion segmentation and a DermoGrabcut-based classification pipeline; evaluated across ISIC-2018, PH2 and HAM10000.

EDUCATION

Master of Engineering, Computer Science and Technology 2022 – 2025
Chongqing University · Chongqing, China
Thesis: Research on Classification and Segmentation of Skin Lesion Images Based on Deep Learning

Bachelor of Science, Computer Science and Technology 2017 – 2021
Jiangxi Normal University · Jiangxi, China
Thesis: Role-Based Access Control in E-Commerce Web Application

PUBLICATIONS

1. **M. T. Islam**, Y. Yin, Z. Timbi, M. M. Islam, Z. Yuan, S. M. M. Pasha (2026). MRLSA-Net: An attention-enhanced framework for robust skin lesion segmentation. *Biomedical Signal Processing and Control, 120, 110016*. doi:10.1016/j.bspc.2026.110016 · First author
2. **M. T. Islam**, Y. Yin, D. Deng, M. M. Islam, S. M. M. Pasha (2025). Leveraging DermoGrabcut Segmentation for Improved CNN-Based Skin Lesion Classification. *ICIC 2025, Springer LNBI 15867, pp. 335–346*. doi:10.1007/978-981-95-0030-7_29 · First author
3. M. M. Islam, Y. Yin, **M. T. Islam**, Z. Yuan, A. Dey (2026). A Dual-Stream Framework for Landslide Segmentation with Cross-Attention Enhancement and Gated Multimodal Fusion. *Computers, Materials & Continua, 86(3)*. doi:10.32604/cmc.2025.072550
4. Y. Yin, Z. Timbi, Z. Yuan, S. Xiong, **M. T. Islam**, A. Dey, S. Ray (2026). Flexible Dilated Convolution and Bidirectional Pyramid Approach to Polyp Segmentation. *Biomedical Signal Processing and Control, 115, 109409*. doi:10.1016/j.bspc.2025.109409
5. Y. Yin, Z. Yuan, **I. M. Tanvir**, X. Bao (2024). Electronic Medical Records Imputation by Temporal Generative Adversarial Network. *BioData Mining, 17(1), 19*. doi:10.1186/s13040-024-00372-2

6. S. M. M. Pasha, C. Ye, S. R. Sohag, M. M. Ali, **M. T. Islam** (2025). AI-Driven Detection and Mitigation of Backdoor Data Infiltration Among IoT Networks. *IJCNN 2025, IEEE, pp. 1–7*. doi:10.1109/ijcnn64981.2025.11229034
7. S. Choudhary, C. Hu, S. M. M. Pasha, **M. T. Islam**, R. Islam, A. B. Himo (2026). An Early Detection of Risky Crowd Dynamics Scheme Based on Motion Entropy and Scene Semantics. *Inscrypt 2025, Springer LNCS 16409, pp. 215–234*. doi:10.1007/978-981-95-6203-9_12

RESEARCH & TECHNICAL SKILLS

Research / ML: Deep Learning, CNNs, Image Segmentation, Image Classification, Attention Mechanisms, PyTorch, TensorFlow, OpenCV, RAG Systems, LaTeX

Research Methods: Experimental Validation, Ablation Studies, Cross-Dataset Evaluation

Engineering: Python, TypeScript, JavaScript, Java, C++, React, Next.js, TanStack Start, Astro, Node.js, Tailwind CSS, PostgreSQL, Convex, MongoDB, Git

Languages: Bengali (native) · English (professional) · Mandarin (conversational) · Hindi (proficient)

PROJECTS

MRLSA-Net (Research code) – Official PyTorch implementation of MRLSA-Net, a U-shaped encoder–decoder with multi-scale feature gating and local self-attention for skin lesion segmentation. github.com/M-Tanvir-Islam/MRLSA-Net

KrishiDoc (Ongoing · Hobby project) – A lightweight image classifier for paddy diseases, aimed at farmers in Bangladesh. Current work studies why strong in-dataset scores drop on real field photographs. github.com/M-Tanvir-Islam/paddy-disease-detection-ml

Online Book Shop (Bachelor's thesis) – A MERN e-commerce prototype exploring role-based access control across the API and the interface, with JWT auth and refresh-token cookies. github.com/M-Tanvir-Islam/WebApp-Online-Book-shop

HONORS & AWARDS

- Chongqing University Presidential Scholarship – Three consecutive years · 2022–2025
- Jiangxi Provincial Government Scholarship – Four consecutive years · 2017–2021
- Outstanding International Student Leader – Chongqing University · 2024–2025
- First Prize, International Student Calligraphy, Painting & Photography Competition – Chongqing University · 2024