Taminul Islam

⌖ Carbondale, Illinois | ✉ taminul.islam@siu.edu | ▯ 773 209 9220 | 🔗 /taminul-islam

Summary

Computer Vision PhD researcher with 31 peer-reviewed publications and 490+ citations, specializing in transformer architectures for real-world applications. Built production-ready models achieving 99.3% accuracy on 203K+ image datasets, with 2 papers accepted to ICCV 2025 (25% acceptance rate). Proven track record leading cross-functional teams to deliver lightweight AI solutions (5M parameters) outperforming state-of-the-art baselines. Eligible for F-1 OPT/CPT internships.

Technical Skills

Languages & Frameworks: Python, TensorFlow, PyTorch, Keras, NumPy, Scikit-learn, JavaScript, HTML/CSS
Computer Vision: Semantic Segmentation, Object Detection, YOLO, Transformer Models (ViT, Swin), SAM-2, OpenCV
ML Specializations: Optical Gas Imaging, Medical Imaging, Agricultural AI, Multi-Task Learning, Model Optimization
Tools & Platforms: Git/GitHub, Google Cloud Platform, Cursor AI, VS Code, LATEX, Docker

Education

Southern Illinois University Carbondale, PhD in Computer Science — Jan 2024 – Present, Carbondale, IL
- GPA: 4.0/4.0 | Graduate Research Assistant in AI/ML/Computer Vision at BASE Lab

Daffodil International University, BS in Computer Science and Engineering — Jan 2018 – Dec 2021, Dhaka, Bangladesh
- GPA: 3.52/4.0 | Full-Free Scholarship (Top 2% of applicants)

Experience

Graduate Research Assistant – AI/ML/Computer Vision, BASE Lab, SIUC — Jan 2024 – Present
- Architected CarboFormer, a lightweight semantic segmentation model (5.07M parameters) achieving 84.88% mIoU for CO_2 emission quantification—15% improvement over baseline with 3x faster inference speed; accepted to ISVC 2025 (Oral presentation) [🔗 github.com/taminulislam/carboformer]
- Co-developed GasTwinFormer, a hybrid vision transformer for livestock methane detection, processing optical gas imaging data for dietary classification; achieved 92% segmentation accuracy and accepted to ICCV 2025 (Oral, top 1.5% of submissions) [🔗 github.com/toqitahamid/gastwinformer]
- Built WeedSwin hierarchical vision transformer achieving 99.3% accuracy in multi-stage weed detection across 203,567 images; published in Scientific Reports (Nature, Q1 journal) and featured in WeedSense multi-task architecture for ICCV 2025 (Poster) [🔗 github.com/taminulislam/weedswin]

Executive, ServicEngineBPO Ltd. — Aug 2022 – Nov 2023
- Managed IT infrastructure and digital advertising operations; deployed cloud solutions on Google Cloud Platform, configured VPN access, and administered Active Directory for 50+ users, reducing system downtime by 40%

Undergraduate Research Assistant – Machine Learning, Daffodil International University — Apr 2020 – Jan 2022
- Published 15+ peer-reviewed papers on cybersecurity, NLP, and medical imaging using TensorFlow, PyTorch, and NumPy; developed breast cancer prediction model with 97% accuracy using XGBoost on 500-patient dataset (Scientific Reports, 55+ citations)
- Engineered deep learning pipelines for disaster tweet classification, cardiovascular disease prediction, and fake news detection, achieving 90%+ accuracy across all domains with optimized hyperparameter tuning

Undergraduate Teaching Assistant, Daffodil International University — Jan 2020 – Dec 2021
- Mentored 150+ students across Algorithms, Artificial Intelligence, and Programming courses over 12 months; designed lab exercises and provided one-on-one coding support, improving average class performance by 18%

Selected Publications (31 total, 490+ citations, h-index: 14)

- **Islam, T.**, et al. (2025). "CarboFormer: Lightweight Semantic Segmentation for CO2 Detection." *ISVC 2025* (Oral)
- **Islam, T.**, et al. (2025). "WeedSwin: Hierarchical Vision Transformer with SAM-2 for Weed Detection." *Scientific Reports* 15(1), 23274
- **Islam, T.**, et al. (2024). "Breast Cancer Classification with Explainable AI." *Scientific Reports* 14(1), 8487

Awards & Leadership

Honors: 3rd Place, Illinois Young Innovator of the Year (Top 3 of 15 finalists, Falling Walls Lab Illinois 2025) | Associate Editor, Frontiers in Medicine (Q1 journal, youngest appointee) | ACM Professional Member

Leadership: General Secretary, Bangladesh Student Association (secured Best RSO Award 2025 for 200+ member organization) | Captain, Cricket & Badminton Championship Teams (2024-2025)