MD TANVIR ISLAM

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🎓 EDUCATION AND AWARDS

February 2023 August 2025	**M.Sc., Sungkyunkwan University (SKKU), South Korea** *Department of Computer Science and Engineering | CGPA : 4.19/4.50* Thesis : Study Towards Robust Image Enhancement in Adverse Atmospheric Environments.	Transcript
March 2022 February 2023	**Korean Language and Cultural Program, Pai Chai University, South Korea** *Korean Language and Cultural Program | TOPIK Level : 4/6* As a prerequisite, I completed this program under the Global Korea Scholarship (GKS).	Transcript
January 2015 January 2019	**B.Sc., North Western University (NWU), Bangladesh** *Department of Computer Science and Engineering | CGPA : 3.98/4.00* Thesis : Study on diabetes prediction for typical and non-typical cases using machine learning approaches.	Transcript

💼 RESEARCH EXPERIENCES

IF : Impact Factor

March 2023 Present	**Research Assistant, VIS2KNOW Lab, Sungkyunkwan University, South Korea** ❯ Data curation and research in AI image detection, image dehazing, and low-light image enhancement. ❯ Our research on image dehazing, LLIE, and AI-synthesized image detection has led to three papers are published at top-tier conferences and journals such as *ACM Multimedia* (**Rank A**), *Asian Conference on Computer Vision (ACCV)* (**Rank B**), *Alexandria Engineering Journal (AEJ)* (**IF : 6.2, Q1**). Also, multiple research papers and patents are under review by the *CVPR'24* and the *US Patent* Office.	Lab Director
July 2018 August 2021	**Research Assistant, CSHI-RLab, North Western University, Bangladesh** ❯ Collected real-life datasets to perform research using machine-learning techniques and **published several papers** at different international conferences, which achieved around **100 citations** so far.	Lab Director

💼 TEACHING EXPERIENCES

March 2024 August 2024	**Teaching Assistant, Department of AI, Sungkyunkwan University, South Korea** ❯ Assisted with curriculum planning for courses and held office hours to support and mentor students. ❯ Facilitated group discussions and study sessions to enhance collaborative learning.
January 2019 December 2020	**Part-time Lecturer, South-East Engineering College, Khulna, Bangladesh** ❯ Planned, prepared and presented lectures while assessing student assignments. ❯ Maintained communication with teachers and students.

🏅 AWARDS AND SCHOLARSHIPS

November 2024	**Academic Excellence Award Winner, NIIED, Government of South Korea** The NIIED selected me as one of the three students for this award based on the research outcomes.	Certificate
December 2023	**16th Korean Language Society Scholarship, Pai Chai University, South Korea** Received this award based on my academic performance and on-campus activities including volunteering.	Certificate
August 2022 February 2025	**Global Korea Scholarship (GKS), NIID, South Korea** Received this award based on my academic performance and on-campus activities including volunteering.	Certificate
January 2015 January 2019	**First Position in Merit List, North Western University, Bangladesh** Certified by my undergraduate university for securing the 1st position in the merit list among all students.	Certificate

🎓 Research Outcomes (Selected)

SCIE | Q1 | IF : 6.2 **Md Tanvir Islam**, Ik Hyun Lee, Ahmed Ibrahim Alzahrani, and Khan Muhammad*. "MEXFIC : A meta ensemble eXplainable approach for AI-synthesized fake image classification." *Alexandria Engineering Journal* 116 (2025) : 351-363. (Published)

SCIE | Q1 | IF : 7.8 **Md Tanvir Islam**, Safkat Shahrier Swapnil, Md Masum Billal, Asif Karim*, Niusha Shafiabady, and Md Mehedi Hassan. "Resource constraint crop damage classification using depth channel shuffling." *Engineering Applications of Artificial Intelligence* 144 (2025) : 110117. (Published)

Rank A **Md Tanvir Islam**, Nasir Rahim, Saeed Anwar, Muhammad Saqib, Sambit Bakshi, and Khan Muhammad*. "Hazespace2m : A dataset for haze aware single image dehazing." In Proceedings of the *32nd ACM International Conference on Multimedia*, pp. 9155-9164. 2024. (Published)

Rank B **Md Tanvir Islam**, Inzamamul Alam, Simon S. Woo*, Saeed Anwar, I. K. Lee, and Khan Muhammad*. "LoLI-Street : Benchmarking Low-Light Image Enhancement and Beyond." In Proceedings of the *Asian Conference on Computer Vision*, pp. 1250-1267. 2024. (Published)

Rank A Inzamamul Alam, **Md Tanvir Islam**, and Simon S. Woo*. "Saliency-Aware Diffusion Reconstruction for Effective Invisible Watermark Removal." *ACM Web Conference, WWW 2025*. (Accepted)

Rank A **Md Tanvir Islam**, Inzamamul Alam, and Simon S. Woo, Khan Muhammad*. "WeatherIR : Degradation Aware Multi-Weather Image Restoration." *International Conference on Computer Vision, ICCV 2025*. (In review)

Rank A Inzamamul Alam, **Md Tanvir Islam**, Simon S. Woo*, Khan Muhammad. "WaveGuard : Advancing Invisible Watermarking with Spectral Projection." *International Conference on Computer Vision, ICCV 2025*. (In review)

U.S. Patent **Md Tanvir Islam**, Ik Hyun Lee, Abdul Khader Jilani Saudagar, Abdullah Altameem, Mohammed Abaoud, and Khan Muhammad. "Apparatus and method for single image dehazing considering haze type classification." *U.S. Patent No. 12,217,398*, issued February 4, 2025. (Registered)

Book Chapter Rezuana Haque and **Md Tanvir Islam** (2024). "Neural Dynamics : Unravelling the Complexity of Brain Activity." In Brain Networks in Neuroscience : Personalization Unveiled Via Artificial Intelligence. Chapter 1, pp. 1-19. (In review)

💻 Skills and Interests

Language Bengali (Native), English (**IELTS (2019) :** 7.0, no band < 6.5), Korean (**TOPIK (2022) :** 4/6).

Programming Python ; **Toolkit :** PyTorch, Keras ; **Database :** PostgreSQL, MySQL.

Tools PowerBI, LaTeX, PyCharm, Jupyter, VSCode, Photoshop, Illustrator, Figma, Microsoft Suites.

Interests Image Restoration, Invisible Watermarking, Activity Recognition, Deepfake, Bioinformatics.

⟨⟩ Projects

HazeSpace2M – 🔾 github.com/tanvirnwu/HazeSpace2M 1st Lead Author
A large-scale hazy dataset of over 2 Million images across 10 distinct levels and propose a novel framework for haze-aware single image dehazing that significantly improves PSNR by 2.41%, SSIM by 17.14%, and MSE by 10.2% over general dehazers.

`SOTA Image Dehazing Methods` `SOTA Classifiers` `PyTorch` `Overleaf` `PyCharm` `Photoshop`

TriFuse & LoLI-Street – 🔾 github.com/tanvirnwu/TriFuse 1st Lead Author
First to introduce a 33K paired low-light street scene dataset with object detection labels and propose TriFuse, a transformer-wavelet-diffusion model that achieves SOTA results for real-life low-light image enhancement for autonomous systems.

`LLIE Methods` `Diffusion Denoising` `Transformers` `Deep Learning` `PyTorch` `Overleaf` `PyCharm` `Photoshop`

SADRE – 🔾 github.com/tanvirnwu/SADRE 2nd Lead Author
We introduced SADRE which is a saliency-aware diffusion reconstruction method for effective invisible watermark removal.

`SOTA Image Watermarking Methods` `Attacks` `Diffusion` `PyTorch` `Overleaf` `PyCharm` `Illustrator`

🎓 Trainings and Learning

August 2019 September 2019	**LICT Top-up IT Training, ICD DIVISION, Bangladesh** Certificate *Bangladesh Computer Council (Certified by George Washington University, Washington, D.C.)* ❯ The training includes 240 hours of technical skills such as Java, HTML, CSS, JavaScript, Bootstrap, and MVC Pattern, and 60 hours of other soft skills like presentation and communication.
February 2018	**Google Bangladesh Android StudyJam, GDG DHAKA, Bangladesh** Certificate *ICT Division, GDG Dhaka, Google Developers* ❯ A 225-hour Android app development course with regular mini-project assignments, culminating in a final complete app development project.
January 2019 Present	**Self Learning,** Online, Books↓ *Some of the courses and books I completed to grow my knowledge.* ❯ PyTorch for Deep Learning Bootcamp (52 hours) Udemy | Mar 2024 ❯ Python for Data Science, AI & Development (25 hours) IBM | Mar 2024 ❯ Python for Data Science and Machine Learning Bootcamp (25 hours) Udemy | Sept 2019 ❯ Foundation of User Experience (UX) Design (19 hours) Google | Oct 2021 ❯ Modern Computer Vision with PyTorch Book by V Kishore Ayyadevara ❯ Python Deep Learning Projects Book by Matthew Lamons ❯ Advanced Deep Learning with Python Book by Ivan Vasilev

🌐 Other Activities

Conference Paper Reviewer, **International Conference of Pattern Recognition (ICPR)**, Kolkata, India.	July 2024
Journal Paper Reviewer, **PLOS One**	January 2025
Journal Paper Reviewer, **PLOS Digital Health**	November 2024
Journal Paper Reviewer, **Frontiers in Nutrition**	March 2024
Founder of Animal Rescue Team, **Khulna Cat Society**, Khulna, Bangladesh	July 2016 - Present
Paper Presentation at **ICCISIoT Conference**, NIT Agartala, India	Dec 2019

❝ References

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