MD TANVIR ISLAM

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Education

February 2023 – February 2025 | M.Sc., Sungkyunkwan University (SKKU), South Korea — Transcript
Department of Computer Science and Engineering | CGPA : 4.19/4.50
Thesis : A Study on Haze Aware Single Image Dehazing for Adverse Atmospheric Conditions.

March 2022 – February 2023 | Korean Language and Cultural Program, Pai Chai University, South Korea — Transcript
Korean Language and Cultural Program | **TOPIK Level : 4/6**
As a prerequisite, I completed this program under the Global Korea Scholarship (GKS).

January 2015 – January 2019 | B.Sc., North Western University (NWU), Bangladesh — Transcript
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.

Research Experiences

March 2023 – Present | Research Assistant, VIS2KNOW Lab, Sungkyunkwan University, South Korea — Lab Director
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 accepted and under review by top-tier conferences and journals such as ACM Multimedia **(BK IF : 4)**, Asian Conference on Computer Vision (ACCV) **(BK IF : 1)**, Alexandria Engineering Journal (AEJ) **(IF : 6.8, Q1)** and three patents under review by the US Patent Office.

July 2018 – August 2021 | Research Assistant, CSHI-RLab, North Western University, Bangladesh — Lab Director
North Western University, South Korea
- 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.

Teaching Experiences

March 2024 – Present | Teaching Assistant, Department of AI, Sungkyunkwan University, South Korea
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
Affiliated by University of Rajshahi, Bangladesh
- Planned, prepared and presented lectures while assessing student assignments.
- Maintained communication with teachers and students.

Research Results

BK : Brain Korea | IF : Impact Factor | See All Papers

Journal Papers (3)	**Accepted :** IEEE Access **(IF : 3.9, Q1)** | **In Review :** AEJ **(IF : 6.2, Q1)**, EAAI **(IF : 7.8, Q1)**
Conference Papers (13)	**Accepted :** ACM MM'24, **(BK IF : 4)**, ACCV'24 **(BK IF : 1.0)**, MIET'24 **(Scopus)** | **In Review :** AAAI'25 **(BK IF : 4)** | **Published** : ICICC, IJCCI, ICCCNT, ICCISIoT
Patents (4)	UK (1 Published), USA (3 patents in review)
Book Chapter (1)	Rezuana Haque & **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 ; **Framework :** PyTorch, Keras ; **Database :** PostgreSQL, MySQL.
Tools	PowerBI, LaTex, PyCharm, Jupyter, VSCode, Photoshop, Illustrator, Figma, Microsoft Suites.
Interests	Computer Vision, Deep Learning, Machine Learning, Image Processing, Bioinformatics.

Projets

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.

TriFuse & LoLI-Street — 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.

LightCDC — 1st Lead Author

We developed a processed dataset for damaged crop classification and proposed a custom lightweight CNN model with just 1.13M parameters, achieving 92% accuracy, demonstrating its effectiveness for real-life applications.

Child — 2nd Lead Author

We introduce a custom computer vision-based model and a new labeled video dataset for detecting and recognizing hazardous activities performed by children in indoor settings.

Machine Learning | Deep Learning | Computer Vision | OpenCV | Python | PyTorch | Overleaf | PyCharm | LaTeX | Photoshop | Illustrator

Trainings

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

Scholarships and Grants

BK21 FOUR Project, funded by MOE & NRF, South Korea — No. 519999091384

Our project and accepted paper, HazeSpace2M, is funded by the BK FOUR project, which is funded by the **Ministry of Education (MOE)** and the **National Research Foundation of Korea (NRF)**.

National Research Foundation of Korea (NRF) grant, South Korea — No. 2021R1F1A1050022

One of my papers was funded by the NRF grant funded by the **Ministry of Science and ICT (MSIT)**

16th Korean Language Society Scholarship, Pai Chai University, Republic of Korea — Dec 2023

Global Korea Scholarship (GKS), NIIED, Republic of Korea — Aug 2022 – Present

First position in Merit List, B.Sc. in CSE, North Western University, Bangladesh — Jan 2015 - Jan 2019

Tuition Fee Waiver and Stipend, North Western University, Bangladesh — Dec 2014 - Jan 2019

Other Activities

Research Paper Reviewer, International Conference of Pattern Recognition (ICPR), Kolkata, India. — July 2024

Volunteering to Rescue Animals, Khulna Cat Society, Khulna, Bangladesh — July 2016 - Present

Paper Presentation in ICCISIoT Conference, NIT Agartala, India — Dec 2019

References

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