Md Zahidul Islam

Lecturer, Dept. of Computer Science and Engineering, Islamic University of Technology

✉ zahidulislam@iut-dhaka.edu   % https://zahid58.github.io/   ⚲ IUT, Dhaka, Bangladesh
☏ +8801753638013   ⚋ github.com/zahid58   in linkedin.com/in/zahid58

Education

Islamic University of Technology (IUT)   ⚲ *Dhaka, Bangladesh*   🗓 *Jan 2017 – March 2021*
B.Sc. in Computer Science and Engineering (CSE)

- **CGPA** — **3.99**/4.0, **Ranked 1st** *in class of 86*
- **Thesis Supervisor** - Professor Dr. Md. Hasanul Kabir
- **Thesis Title** — *"Efficient Two-Stream Network for Violence Detection Using Separable Convolutional LSTM"*
  - Developed a learning-based efficient computational model for recognizing specific human actions from video footage.

Cumilla Cadet College   ⚲ *Cumilla, Bangladesh*   🗓 *2010 – 2016*

- Higher Secondary Certificate, 2016 - GPA: **5**/5
- Secondary School Certificate, 2014 - GPA: **5**/5

Research Experience   [Scholar] [ORCID]

Research Interests

- My research area is **Computer Vision** & **Machine Learning**, specifically, intelligent systems for image & video understanding.

Publications

[1] **Z. Islam**, M. Rukonuzzaman, R. Ahmed, M. H. Kabir and M. Farazi, **"Efficient Two-Stream Network for Violence Detection Using Separable Convolutional LSTM"**, International Joint Conference on Neural Networks **(IJCNN)**, Shenzhen, China, July 18-22, 2021, pp. 1-8 [paper] [code]

[2] A. S. A. Rabby, M. M. Islam, **Z. Islam**, N. Hasan and F. Rahman, **"Towards Building A Robust Large-Scale Bangla Text Recognition Solution Using A Unique Multiple-Domain Character-Based Document Recognition Approach"**, 20th IEEE International Conference on Machine Learning and Applications (ICMLA), CA, USA, Dec. 13-16, 2021, pp. 1393-1399 [paper]

[3] **Z. Islam**, R. Fariha, **"Data-driven Forecasting of Weather in Bangladesh Leveraging Transformer Network and Strong Inter-feature Correlation"**, 25th International Conference on Computer and Information Technology (ICCIT) 2022, Cox's Bazar, Bangladesh, Dec. 17-19, 2022 **(Accepted)**

[4] R. Mahbub, S. Anuva, I. Khan, **Z. Islam**, **"A Comparative Analysis of Efficient Convolutional Neural Network Based Methods for Plant Disease Classification"**, 25th International Conference on Computer and Information Technology (ICCIT) 2022, Cox's Bazar, Bangladesh, Dec. 17-19, 2022 **(Accepted)**

Reviewing Experience

- Reviewed articles for **IJCNN** (x4), **IEEE Access** (x2), and **Applied Artificial Intelligence** (AAAI) (x1).

Professional Experience

Islamic University of Technology (IUT)   ⚲ *Dhaka, Bangladesh*   🗓 *July 2021 – Present*
Lecturer, Dept. of Computer Science and Engineering (CSE)

- **Courses Conducted** - Digital Signal Processing, Computer Programming, Machine Learning, Algorithm Engineering etc.
- **IUT Computer Vision Lab** - Collaborated with colleagues in research projects and supervised students in their thesis.

Apurba Technologies Ltd.   ⚲ *Dhaka, Bangladesh*   🗓 *March 2021 – June 2021*
Consultant (Machine Learning)

- Collaborated on various research projects related to computer vision and machine learning.
- Engaged in research and development of a web-based Bengali Optical Character Recognition (OCR) pipeline.

Samsung R & D Institute Bangladesh   ⚲ *Dhaka, Bangladesh*   🗓 *Nov 2019 – Jan 2020*
Industrial Training

- Acquired hands-on training on computer programming and android application development on Android Studio.

Linguistic Proficiency and Standardized Test Scores

- **Proficient** in reading, listening, speaking, & writing in **English** and **Bengali**.
- **TOEFL iBT** :   Total - **116**/120,   Reading - **30**/30,   Listening - **30**/30,   Speaking - **27**/30,   Writing - **29**/30   *Nov 2022*
- **GRE** :   Quantitative - **167**/170,   Verbal - **161**/170,   Analytical Writing - **4.0**/6.0   *Sept 2021*

Awards & Accolades

Robotics - European Rover Challenge, Poland
2019, 2018

- Achieved 15th position in ERC 2019 and 14th position in ERC 2018 with IUT Mars Rover-Team Avijatrik. Worked on robotic arm manipulation and cache retrieval by image processing.

Matlab Programming Challenge
2020, 2019

- Champion in Matlab Mania at *Horizon 2020*, KUET and in Matlab Challenge at *Esonance 2019*, IUT.

ICT Olympiad
2019

- Champion in the quiz competition "ICT Olympiad" at IUT 10th ICT Fest organized by dept. of CSE, IUT.

Line Following Robot (LFR) Racing
2018

- Runners up in LFR Racing at *Technovision* organized by ECE dept., North South University.

Scholarships
2016, 2014

- OIC Scholarship for 3 years of undergraduate studies at IUT by Organization of Islamic Cooperation (OIC).
- Higher Secondary Certificate and Secondary School Certificate exam scholarships by Bangladesh Govt.

Technical Skills

- Proficient in designing and implementing deep learning models and applications on **Pytorch** and **Tensorflow**.
- Programming - **Python, C++, C, Java**   • Web - **HTML, CSS, JS**   • Image Processing - **Python-OpenCV, Matlab**

Online Certifications
[verify]

- **Deep Learning Specialization, Tensorflow Developer Specialization**, *by DeepLearning.AI, coursera.org*
- **Machine Learning**, *by Andrew Ng, Stanford University, coursera.org*
- **Build Basic Generative Adversarial Networks (GANs)**, *by DeepLearning.AI, coursera.org*

Projects
[github.com/zahid58]

EasyScan OCR Whiteboard
Python, OpenCV, Tesseract

- A interactive GUI digital whiteboard with live handwriting recognition (OCR). This feature allows saving whiteboard sessions as texts and helps improve the understandability of the handwriting.

Inpainter - A GUI Image Inpainting Tool
Python, PyQt, OpenCV

- An interactive application that helps fill up missing/damaged areas or remove foreground objects from images.

Dhaka Traffic Detection
Python, Pytorch

- Analysed the performance of prominent object detection algorithms such as Yolov3, Yolov5, and hybrid models (Yolov5+ResNet) on Dhaka Traffic Detection Challenge Dataset.

Traffic Sign Localization and Recognition
Python, Tensorflow

- A two stage system where at first, region of interests likely to contain traffic signs are found out using *Voila-Jones* object detection algorithm. Then, a deep neural network recognizes the traffic signs.

Tsaurus - A Learning App for Kids
Node JS, Python, OpenCV

- Helps children learn new words in a fun way by simply taking photo of text. The software fetches relevant images, dictionary meaning etc. from internet. It uses OCR and webscrapping tools.

Reference

Dr. Md. Hasanul Kabir

Professor,
Dept. of Computer Science and Engineering,
Islamic University of Technology (IUT),
✉ hasanul@iut-dhaka.edu, ☎ +8801715007049

Abu Raihan Mostofa Kamal

Professor and Head of the Dept.,
Dept. of Computer Science and Engineering,
Islamic University of Technology (IUT),
✉ raihan.kamal@iut-dhaka.edu, ☎ +8801843925543