Md Zahidul Islam

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

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Education

Islamic University of Technology (IUT)
Dhaka, Bangladesh *Jan 2017 – March 2021*

B.Sc. in Computer Science and Engineering (CSE)

- **CGPA** — **3.99**/4.00, *Ranked **1st** in class of 86*
- **Thesis Supervisor** - Dr. Md. Hasanul Kabir
- **Thesis Title** — Efficient Two-Stream Network for Violence Detection Using Separable Convolutional LSTM

Professional Experience

Islamic University of Technology
Dhaka, Bangladesh *July 2021 – Present*

Lecturer, *Dept. of Computer Science and Engineering*

- **Courses Conducted** - Digital Signal Processing, Integral Calculus, Algorithm Engineering Lab etc.
- **IUT Computer Vision Lab** - Researching on the area of Computer Vision & its real-world applications.

Apurba Technologies Ltd.
Dhaka, Bangladesh *March 2021 – June 2021*

Machine Learning Engineer

- Research and development of large-scale Bengali Optical Character Recognition (OCR) pipelines.
- Developed and optimized deep learning models for grapheme-based Bengali character recognition.
- Implemented image processing & deep learning methods for word detection & character segmentation.

Samsung R & D Institute Bangladesh
Dhaka, Bangladesh *Nov 2019 – Jan 2020*

Intern, *Research & Mobile Application Development*

- Developed user identification system by recognizing human walking patterns using deep learning models on smartphone accelerometer data.

Research Experience

[ORCID]

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)**, July 18-22, 2021, pp. 1-8 [paper] [code]

(2) AKM S. A. Rabby, Md. M. Islam, **Z. Islam**, N. Hasan, 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)**, December 13-16, 2021 (Accepted for Publication)

Research Interests

- My research interests lie in **Computer Vision, Machine Learning**, and their **real-world applications**.
- Specifically, I am interested in human action recognition, object detection, and video understanding.

Reviewing Experience

- Reviewed articles for the journals **IEEE Access** (x2) and **Applied Artificial Intelligence** (AAAI)

Skills

- Programming - **Python, C++, C, Java** • Web - **HTML, CSS, JS** • Image Processing - **OpenCV, Matlab**
- Proficient in **Tensorflow, Pytorch & Sklearn** for Machine Learning/Deep Learning research & applications

Projects

[github.com/zahid58]

Inpainter *Python, PyQt, OpenCV*

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

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.

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.

Tsaurus *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.

Inverse Kinematics *Python, Sympy, Matplotlib*

- Automates movement of a robotic arm with 6 degrees of freedom & visualizes it using an easy to use GUI.

Awards & Accolades

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 Coding Challenge *2020, 2019*

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

ICT Olympiad *2019*

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

Line Following Robot 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.

Online Certifications

[verify]

- Deep Learning Specialization, Tensorflow Developer Specialization, *by DeepLearning.AI - Coursera*

Standardized Test Scores

- **GRE** : Quantitative - **167**/170, Verbal - **161**/170, Analytical Writing - **4.0**/6.0 *Oct 2021*
- **TOEFL** : Total - **110**/120, Reading - 29, Listening - 30, Speaking - 23, Writing - 28 *Sept 2021*

Reference

Dr. Md. Hasanul Kabir

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