

Sabbir Ahmed

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About Me

I am an Assistant Professor in the Dept of CSE at Islamic University of Technology (IUT). I am in the Computer Vision lab, advised by Prof. Hasanul Kabir. Before that, I received a M.Sc. and B.Sc. (Gold medalist) from IUT respectively in the year 2022 and 2017. My current research is in improving few-shot learning algorithms for image classification tasks. Besides, I've worked with different applications of deep learning in the field of computer vision such as leaf disease classification, gait analysis, traffic sign detection, handwritten digit recognition, etc.

Education

- **M.Sc. in Computer Science and Engineering** 2018 - 2021
Department of Computer Science and Engineering, Islamic University of Technology
CGPA: 4.00/4.00
Thesis: Classification of Plant Disease from Leaf images using Few-shot Learning
Supervisor: Dr. Md. Hasanul Kabir, Professor, IUT
- **B.Sc. in Computer Science and Engineering** 2014 - 2017
Department of Computer Science and Engineering, Islamic University of Technology
CGPA: 3.93/4.00 (First Class First - IUT Gold Medalist)
Thesis: Image Classification using Deep Learning and Convolutional Neural Network
Supervisor: Dr. Md. Hasanul Kabir, Professor, IUT
- **Higher Secondary School Certificate (HSC)** 2011 - 2012
Chittagong College
GPA: 5.00/5.00

Experience

- **Assistant Professor** September 2022 - Present
Department of Computer Science and Engineering, Islamic University of Technology
Courses conducted: Pattern Recognition, Data Structures, Algorithms, Linear Algebra, Digital Logic Design, Web Programming
Other responsibilities: Moderator- IUT Computer Society (IUTCS), Advisor- IUT Programming Community (IUTPC), Online exam coordination, Course load distribution, Student advisor for Third year.
- **Lecturer** 2018 - August 2022
Department of Computer Science and Engineering, Islamic University of Technology
- **Intern** November 2016
XeonBD, Bangladesh
Responsibilities: WordPress based projects

Publications

Journal

- **Ahmed, S.**, Hasan, M., Ahmed, T., Sony, R. K., & Kabir, M. (2022). Less is More: Lighter and Faster Deep Neural Architecture for Tomato Leaf Disease Classification. *IEEE Access*. doi: 10.1109/ACCESS.2022.3187203.
- Alanezi, M. A., Shahriar, M. S., Hasan, M. B., **Ahmed, S.**, Sha'aban, Y. A., & Boucekara, H. R. (2022) Livestock Management with Unmanned Aerial Vehicles: A Review. *IEEE Access*. doi: 10.1109/ACCESS.2022.3168295

Conference

- Yasmeen, A., Rahman, F. I., **Ahmed, S.**, & Kabir, M. H. (2021, August). CSVN-Net: Code-Switched Voice Command Classification using Deep CNN-LSTM Network. In *2021 Joint 10th International Conference on Informatics, Electronics & Vision (ICIEV) and 2021 5th International Conference on Imaging, Vision & Pattern Recognition (icIVPR)* (pp. 1-8). IEEE. doi: 10.1109/ICIEVicIVPR52578.2021.9564183.

- Khatun, A., Shahriar, M. S., Hasan, M. H., Das, K., **Ahmed, S.**, & Islam, M. S. (2021, August). A Systematic Review on the Chronological Development of Bangla Sign Language Recognition Systems. In *2021 Joint 10th International Conference on Informatics, Electronics & Vision (ICIEV) and 2021 5th International Conference on Imaging, Vision & Pattern Recognition (icIVPR)* (pp. 1-9). IEEE. doi: 10.1109/ICIEVicIVPR52578.2021.9564157

Under Review

- Ashikur Rahman, A. B. M., Bakhtiar Hasan, M., **Ahmed, S.**, Ahmed, T., Hamjajul Ashmafee, M., Ridwan Kabir, M., Hasanul Kabir, M. (2022). Two Decades of Bengali Handwritten Digit Recognition: A Survey. arXiv e-prints, arXiv-2206. preprint: <https://arxiv.org/abs/2206.02234>

Ongoing Research Projects

- **Leaf Disease Detection with Limited Data**
Exploring different Deep Learning techniques to achieve high performance with limited amount of data.
- **Pest Detection from images taken in the wild**
Investigating the use of Deep learning techniques to effectively detect and segment pests from real-life images.
- **Bangladeshi Traffic Sign Detection Benchmark**
Curating a dataset containing traffic sign images representing real-life challenges from road of Bangladesh.

Training and Workshop

- **Day long workshop on Outcome Based Education (OBE)** 2021
Location: Gazipur, Bangladesh
Content: Detailed introduction of the terminologies regarding OBE to apply in course curriculum
- **Software Quality Assurance for Web Development** 2018
Islamic University of Technology
Location: Gazipur, Bangladesh
Content: Quality assurance and cyber security
Workshop: Project management and software testing tools

Other Experiences

- **Reviewer** 2022 - Present
Journal: IEEE Access
- **Advisor** 2018 - Present
IUT Programming Community (IUTPC) ,IUT Computer Society (IUTCS)
- **Regional Mentor** 2021 - Present
Smart Agro-Technology Innovation Youth Network (SAIYN)
Bangladesh Agricultural University (BAU)

Honors and Awards

- **Best Presentation Award** 2021
2021 10th International Conference on Informatics, Electronics & Vision (ICIEV)
- **IUT Gold Medal** 2018
Islamic University of Technology
- **Champion** 2016
App Development, AUW Tech Fest
- **Runner Up** 2016
Project Showcasing, 8th National ICT Fest, Islamic University of Technology
- **OIC Full Free Scholarship** 2015
Islamic University of Technology
- **4 years Govt. Scholarship** 2014
Bangladesh Education Board for Higher Secondary Certificate

- **2 years Govt. Scholarship**
Bangladesh Education Board for Secondary School Certificate

2012

Extra-Curricular Activities

- **Vice President**
IUT Computer Society (IUTCS)
- **Organizer**
9th National ICT Fest, IUT

2016 - 2017

2017

References

- **Dr. Md. Hasanul Kabir**
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Islamic University of Technology
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- **Dr. Abu Raihan Mostafa Kamal**
Head of the Department
Department of Computer Science and Engineering
Islamic University of Technology
Email: raihan.kamal@iut-dhaka.edu