

Md Mahedi Hasan

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OBJECTIVES

To pursue a challenging and research-oriented career in the fields of computer vision and pattern recognition.

RESEARCH INTERESTS

Computer Vision and Pattern Recognition | Deep Learning | Biometrics

STANDARDIZED TESTS

TOEFL iBT[®]: Total score: 86 (Reading-25, Listening-21, Speaking-19, Writing-21)

Revised GRE[®]: Total Score: 309 (Verbal-151, Quantitative-158, Analytical Writing-3.0)

EDUCATION

M.Sc. in Information and Communication Technology (2015 - 2020)

Bangladesh University of Engineering and Technology (BUET)

CGPA: 3.58 out of 4.00

Thesis: View Invariant Gait Recognition for Person Re-Identification in a Multi Surveillance Camera Environment.

Advisor: Dr. Hossen Asiful Mustafa, Assistant Professor, IICT, BUET

B.Sc. in Electrical and Electronic Engineering (2008 - 2013)

Khulna University of Engineering and Technology (KUET)

CGPA: 3.48 out of 4.00

Thesis: Planning and Development of Engineering maintenance module of radiological equipment X-Ray in rural areas of Bangladesh.

Advisor: Prof. Dr. Mohiuddin Ahmad, Professor, EEE, KUET

Higher Secondary Certificate (2006 - 2008)

Engineering University Higher Secondary School

GPA 5.00 out of 5.00

Secondary School Certificate (2004 - 2006)

West End High School

GPA 5.00 out of 5.00

Journal Papers

- **Hasan, M.M.**, Mustafa H.A.: “Multi-level Features Fusion for Robust Pose-based Gait Recognition using RNN,” International Journal of Computer Science and Information Security, Pittsburgh, PA, USA, Volume 18 No. 1, Jan 2020. [PDF](#)
- Haque, M.Z., **Hasan, M.M.**: “Forensic Detection of Digital Image Tampering Using Statistical Analysis,” International Journal of Computer Science and Information Security, Pittsburgh, PA, USA, Volume 18 No. 9, Sep 2020. [DOI](#)

Conference Papers

- **Hasan, M.M.**, Islam, M.S., Abdullah, S.: “Robust Pose-Based Human Fall Detection Using Recurrent Neural Network,” IEEE International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things, Dhaka, Bangladesh, 2019. [DOI](#)
- **Hasan, M.M.**, Abir M.M., Ibrahim M., Sayem M., Abdullah, S.: “AIBangla: A Benchmark Dataset for Isolated Bangla Handwritten Basic and Compound Character Recognition,” 2019 International Conference on Bangla Speech and Language Processing (ICBSLP). Sylhet, Bangladesh, 2019. [DOI](#)
- Islam, S.M.S., **Hasan, M.M.**, Abdulla, S.: “Deep CNN-Based Early Detection and Grading of Diabetic Retinopathy Using Retinal Fundus Images,” 1st International Conference on Machine Learning, Image Processing, Network Security and Data sciences (MIND). Kurukshetra, India, 2019. [arxiv](#)
- Abdullah, S., **Hasan, M.M.**, Islam, S.M.S.: “Yolo-Based Three-Stage Network for Bangla License Plate Recognition in Dhaka Metropolitan City,” 2018 International Conference on Bangla Speech and Language Processing (ICBSLP). Sylhet, Bangladesh, 2018. [DOI](#)
- Islam, S.M.S., **Hasan, M.M.**: “DEEPGONET: Multi-label Prediction of Go Annotation for Protein from Sequence using Cascaded Convolutional and Recurrent Network,” The 21st International Conference on Computer and Information Technology (ICCIT). Dhaka, Bangladesh, 2018. [DOI](#)

Submitted Manuscript

- Manuscript submitted to IET Computer Vision: **Hasan, M.M.**, Mustafa H.A., “Learning View-Invariant Features using Stacked Autoencoder for Skeleton-Based Gait Recognition,”

EXPERIENCE

Lecturer (May, 2019 - Present)

- Department of Computer Science and Engineering (CSE)
- Manarat International University (MIU)
- Responsibilities:
 - * Conducting undergraduate classes
 - CSE-433: Neural Networks
 - CSE-436: Pattern Recognition
 - CSE-437: Computer Vision and Robotics
 - CSE-411: Artificial Intelligence
 - * Supervising undergraduate student research and projects
 - * Undergraduate thesis supervision

Adjunct Lecturer (May, 2016 - April, 2019)

- Department of Computer Science and Engineering (CSE)
- Manarat International University (MIU)

Assistant Editor (March, 2015 - Present)

- Byapon Science Magazine
- A bi-monthly youth science magazine which has been printed and circulated nationwide by more than 12,000 copies per issue

Supervisory Member (January, 2014 - December, 2016)

- EarthFace Software Solution, Dhaka, Bangladesh

RELEVANT COURSEWORKS

Undergraduate Courses

- Numerical Methods and Statistics, Mathematics I-IV, Programming Technique I-II

Postgraduate Courses

- Data Warehousing and Mining, Applied Cryptography

RESEARCH PROJECTS

Real-time Detection and Recognition of Bangladeshi License Plate

- Working on a project to develop a real-time automatic license plate recognition (ALPR) system for Bangladeshi vehicles. A short version of this work has been published in an IEEE conference 2018.

Automatic Bangla Handwritten Compound Character Recognition

- Working on a project to recognize handwritten Bangla characters by introducing AIBangla, a large-scale image database for isolated Bangla basic and compound characters. The work and the dataset has been published in an IEEE conference 2019.

A Real-time Bangla Sign Language Recognition System

- Working on a project to develop a word-level vision-based Bangla sign language recognition system to help deaf people for effective communication. A novel temporal graph convolutional network (TGCN) has been proposed to model temporal descriptors of the sign videos for improved performance. This work has been submitted for peer review.

Automatic Detection of Unfit Vehicles for Intelligent Transportation System

- An optimized YOLOv3-based unfit vehicles detection system where Mask R-CNN has been implemented to detect the damaged portion of the vehicles. This work has been submitted for peer review. This work has been submitted for peer review

Development of An Automated Essay Scoring Engine

- Designed a machine learning-based automated essay scoring (English) system. The algorithm was successfully implemented in a web-based e-learning platform developed for dept. of CSE, MIU.

Distributed Password Cracking System

- Implementation of a multiple client based distributed online password cracking system

PROFESSIONAL AFFILIATIONS

- **Head of Digital Transformation Committee (DTC)**, Dept. of CSE, MIU
- **Member**, computer vision research group, Dept. of CSE, MIU
- **Member**, AIBangla, an AI-based research group in Bangladesh

ACADEMIC HONORS

- **University Merit Scholarship:** All eight terms of undergraduate study from the Govt. of the People's Republic of Bangladesh

EXTRACURRICULAR ACTIVITIES

- **Invited Speaker** at Devfest Bangladesh 2019, Organized by: Google Developer Group, Sonargaon, Dhaka, Bangladesh (November 2019)
- **Instructor** at Code Camp 2019 organized by Manarat International University (MIU) CSE Club
- **Participant** at Robi Datathon Bangladesh 2019, organized by Robi Axiata Ltd at 19-20, April 2019
- **Member** at Inter University Tech Fiesta 2012, organized by EEE Association, KUET
- **Volunteer** at IEEE Student Professional Awareness Conference (SPAC), 2010 Organized by IEEE Student Branch, KUET

TECHNICAL SKILLS

- **Programming Languages:** C/C++, Java, Python
- **Web Programming:** PHP, JavaScript
- **Application Development:** Android
- **System Administration:** Unix/Linux
- **Developer Tools:** Git, Google Cloud Platform
- **Document Processing:** LaTeX, MS Office, Adobe Illustrator
- **Libraries:** NumPy, OpenCV, Pandas, Matplotlib