Md Shamimul Islam

Lecturer
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RESEARCH INTERESTS

Machine Learning | Deep Learning | Natural Language Processing | Computer Vision

EDUCATION

Jahangirnagar University(JU) (2023)

Master's in Applied Statistics and Data Science

CGPA 3.90 out 4

Relevant Courseworks: Big Data, Machine learning, Introduction Data Science with python

Project: Pose-based Bangla Sign Language Recognition using Deep learning Algorithms (Ongoing)

Advisor: Dr. Mohd. Muzibur Rahman, Professor, Statistics Department, JU

Manarat International University(MIU) (2020)

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

CGPA: 3.99 out of 4.00

Courseworks: AI, Computer Vision and Robotics, Neural Networks and Fuzzy Systems

Thesis: Exam Cheat Recognition using CNN.

Advisor: Sohaib Abdullah, Assistant Professor, CSE, MIU

PROFESSIONAL EXPERIENCE

Lecturer (2023 - Present)

- Department of CSE, Asian University of Bangladesh
- Conducted undergraduate courses:
  * Machine Learning,

Adjunct Faculty (2020 - 2022)

- Department of CSE, Manarat International University
- Responsibilities:
  * Conducted undergraduate courses
    · AI, Neural Networks, Pattern Recognition, Computer Vision, OOP, Structured Programming

  * Provided guidance and advice to undergraduate students on research projects and related academic activities.
  * Associated with MIU CSE Club

Research Assistant (2018 - 2020)

- Computer Vision Lab, Manarat International University

Conference Papers

- **Islam, M.S.**, Hasan, M.M., Abdullah, S.: "A Deep Spatio-Temporal Network for Vision-Based Sexual Harassment Detection". 2021 IEEE International Conference on Emerging Technology in Computing, Communication and Electronics.DOI
- **Islam, M.S.**, Elwarfalli, I.: "Deep Learning-Powered ECG Biometric Authentication," IEEE International Conference on Next-Generation Computing, IoT and Machine Learning (NCIM 2023), DUET, Dhaka, Bangladesh, 2023.
- **Islam, M.S.**, Joha, A.J.M., Hossain, M.N., Elwarfalli, I., Abdullah, S., Hasan, M.M.: "Word Level Bangla Sign Language Dataset for Continuous BSL Recognition," IEEE International Conference on Next-Generation Computing, IoT and Machine Learning (NCIM 2023), DUET, Dhaka, Bangladesh, 2023.(Under-Review)
- 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
- Arafat, N.H.M., Ileas, Sumaiya, Mujazid, **Islam, M.S.**, Fatema, : "BloSecR: A Conceptual Framework of Identity Documents' Security on Blockchain in Refugee Issues and Conserving Fundamental Rights". 2022 The International Conference for Intelligent Technologies, Karnataka, India. DOI

Datasets

- **Islam, M.S.**,Joha, A.J.M, Hossain, Nur, Hasan, M.M. (2023), "Multi-View Bangla Sign Language(MV-BSL) Dataset" Link

- **Islam, M.S.**, Hossain, N., Akter, Jui. (2023), "Bangla Political Post Dataset" (On-going)

- **Islam, M.S.**, Hasan, M.M., Abdullah, S. (2021), "Sexual Harasment Video dataset" Link

RESEARCH PROJECTS

A Real-time Bangla Sign Language Translation System

- Working on a project to develop a pose-based Bangla sign language translation system to help deaf people for effective communication. A novel transformer architecture has been proposed to model temporal descriptors of the sign videos to Bangla sentence. A short version of this work has been won in Artificial Intelligence for Bangla Competition 2.0.

Bangla Social Network Post Analysis using Deep learning

- Working on a project to develop a real-time language model which is able to categorize ruling government post and anti-government post along with toxic level. For this work, we have collected a dataset and then using this dataset we plan apply a transformer to build the model.

Real-time Sexual Harassment Detection in Workplace

- Working on a project to develop a real-time automatic sexual harassment detection in workplace. A short version of this work has been published in an IEEE conference 2021.

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.

Academic Honors

- **Winner of AI for Bangla 2.0 Competition:** As team leader, won the national-level AI For Bangla 2.0 competition in 2023, , which was directed by the Bangladesh Government, leading a team in developing an innovative AI solution for the Bangla sign language. Competition involved more than hundred teams.

- **Islamic Development Bank(IsDB) Masters Scholarship:** Received the highly competitive IsDB Scholarship in 2020, awarded to outstanding students pursuing graduate studies in Master of Science. Scholarship valued at $6,000.

- **University Merit Scholarship:** Due to placement in the top 2% of students in the institute, tuition fees were waived in under-graduation.

Extracurricular Activities

- **Elected President** at MIU CSE Club 2020, Manarat International University, Ashulia, 2020, leading department's students in organizing events and activities to promote interest in the field of computer science and and organized some successful events, such as MIU CSE Fest 2020, Intra university programming contest and so on.

- **Co-founder** at Hasimukh(Smile), a social welfare organization established in 2017 in Rangpur, Bangladesh, working to support the underprivileged people in Bangladesh.

- **Participant** at The ICPC Bangladesh IUBAT NCPC National Programming Contest in 2018, Dhaka, Bangladesh.

- **Participant** at Hackathon-2019, organized by Google Developer Group(GDG) Sonargaon, Dhaka, Bangladesh.

- **Invited Speaker** at Webinar on A Publication Road Map for Scientific Papers, 2022, organized by MIU CSE club, Manarat International University, Ashulia.

- **Champion** in Great Victory Day Essay Competition in 2015 at Manarat International University, Ashulia.

- **First Runner-up** in the International Mother Language Day Essay Competition in 2017, held at Manarat International University, Ashulia.

- **Organizing Member** at Code Camp-2019 organized by MIU CSE Club, Manarat International University, Ashulia.

Technical Skills

- **Programming Languages**: C/C++, Java, Python

- **Numeric Computing**: Matlab, Octave

- **System Administration**: Unix/Linux

- **Developer Tools**: Git, Google Cloud Platform

- **Document Processing**: LaTeX, MS Office, Adobe Illustrator

- **Libraries**: NumPy, OpenCV, Pandas, Matplotlib

- **AI Framework**: TensorFlow, PyTorch

- **Object Detection Algorithms:**: YOLO, RetinaNet, Mask R-CNN

- **Pose Detection Algorithms:**: OpenPose, MediaPipe