

Tonmoy Hossain

Ahsanullah University of Science and Technology
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Summary

Lecturer at the Department of Computer Science and Engineering, Ahsanullah University of Science and Technology (AUST). Right after completing the graduation, I have the opportunity to serve my alma mater. My primary research interest lies at Deep Learning, Computer Vision, Data Mining and Medical Image Processing.

Education

Ahsanullah University of Science and Technology

B. Sc. in Computer Science and Engineering

GPA: 3.842 on a scale of 4.00 (3rd position out of 152 students)

Dhaka, Bangladesh

May 2015 - July 2019

Dhaka College

Higher Secondary Certificate (H.S.C)

GPA: 5.00 on a scale of 5.00

Dhaka, Bangladesh

July 2012 - August 2014

Ideal School and College

Secondary School Certificate (S.S.C)

GPA: 5.00 on a scale of 5.00

Dhaka, Bangladesh

June 2012

Research Interests

Computer Vision, Data Mining, Image Processing, Machine Learning, Deep Learning & its sub-fields

Undergraduate Thesis

Identification and Classification of Brain Tumor Medical Images using Deep Learning

Supervisor: Faisal Muhammad Shah, Associate Professor, Dept. of CSE, AUST.

We worked on different types of MRI images in this research work. The main objective is to detect the abnormal tissues on the MRI and segment the abnormal cells known as brain tumor from the MRI. We've developed a hybrid model using the existing ones to detect the abnormalities. A five layer CNN model is employed to distinguish the abnormal cells.

Publications

- F. S. Shishir, T. Hossain and F. Muhammad Shah, "EsharaGAN: An Approach to Generate Disentangle Representation of Sign Language using InfoGAN," *Accepted and Presented in 2020 IEEE Region 10 Symposium (TENSYP), 5-7 June 2020, Dhaka, Bangladesh.*
- T. Hossain, F. S. Shishir and F. Muhammad Shah, "A Novel Approach to Classify Bangla Sign Digits using Capsule Network," *2019 22nd International Conference on Computer and Information*

Technology (ICCIT), Dhaka, Bangladesh, 2019, pp. 1-6, doi: 10.1109/ICCIT48885.2019.9038609.

- **T. Hossain**, F. S. Shishir, M. Ashraf, M. A. Al Nasim and F. Muhammad Shah, "**Brain Tumor Detection Using Convolutional Neural Network**," *2019 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT), Dhaka, Bangladesh, 2019, pp. 1-6, doi: 10.1109/ICASERT.2019.8934561.*
- Maitra, Shithi & **Hossain, Tonmoy** & Al-Sakin, Abdullah & Inzamamuzzaman, Sheikh & Mamun, Md & Shabnam, Syeda. (2019). "**A Gender-Neutral Approach to Detect Early Alzheimer's Disease Applying a Three-layer NN**". *International Journal of Advanced Computer Science and Applications*. 10. 10.14569/IJACSA.2019.0100368.
- Faisal Muhammad Shah, **Tonmoy Hossain**, Mohsena Ashraf, Fairuz Shadmani Shishir, MD Abdullah Al Nasim, Md. Hasanul Kabir. "**Brain Tumor Segmentation Techniques on Medical Images - A Review**", *International Journal of Scientific & Engineering Research, Volume 10, Issue 2, February-2019. ISSN 2229-5518*
- S. Maitra, **T. Hosain**, A. Al-Sakin and F. M. Shah, "**Artificial Prognosis of Cardiac Disease using an NN: A Data-scientific Approach in Outlier Handling**," *2019 4th International Conference on Electrical Information and Communication Technology (EICT), Khulna, Bangladesh, 2019, pp. 1-12, doi: 10.1109/EICT48899.2019.9068847.*

Technical Skills

Languages: Python, C, C++, C#, JAVA, HTML5, PHP, XML, JavaScript, R, .net, 80x86 Assembly

Framework: CSS, OpenGL, WebGL

Database: MySQL, SQLite, Oracle

Design Tools: Eclipse, NetBeans, Microsoft Visual Studio, PyCharm

Operating System: Windows, Android, LINUX

Hardware: ATMEL (AVR Programming)

Deep Learning Tools: Keras, PyTorch, Tensorflow

Others: PL/SQL, UML, LaTeX

Academic Projects

1. Supershop Management System
2. Optimal Location Detection for a Food Restaurant
3. Extraction of text from Images
4. Segmentation of Brain Tumor using Image Processing Techniques
5. Melitus Detector
6. Diabetes Prediction

Teaching Experience

Lecturer

Department of Computer Science and Engineering

Ahsanullah University of Science and Technology

January 2020 - Present

Adjunct Lecturer

August 2019 - January 2020

Courses Taken

- Introduction to Computer Systems (CSE1108)
- Computer Programming Sessional (CSE1288)
- Digital Logic Design Lab (CSE2106)
- Introduction to Computer Science (CSE2146)
- Database Lab (CSE3104)
- Software Development-V (CSE3200)
- Artificial Intelligence Lab (CSE4108)

Awards & Achievements

- "Dean's List of Honor" (based on B.Sc. result)
- 7th Place out of 200 participants from 25 Universities in the EWU Inter University Math Olympiad 2019
- Certificate on Presentation at 22nd International Conference on Computer and Information Technology (ICCIT - 2019)
- Certificate on Presentation at 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT - 2019)

Conference & Workshop

- Presented a paper on 2020 IEEE Region 10 Symposium (TENSYP 2020), Dhaka, Bangladesh
- Presented a paper on 4th International Conference on Electrical Information and Communication Technology (EICT - 2019), Khulna, Bangladesh
- Presented a paper on 22nd International Conference on Computer and Information Technology (ICCIT - 2019)
- Presented a paper on 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT, 2019)
- Participated in "How Computer Program Works", organized by Innovation for Poverty Action associated with University of California, San Diego and Cornell University.
- Participated in "LEARN TO WRITE RESEARCH PAPER USING LATEX", organized by IEEE AUST Student Branch & IEEE AUST SB WIE Affinity Group

Reference

Prof. Dr. Kazi A Kalpoma

Head, Department of CSE

Director, ICT Center

Ahsanullah University of Science and Technology

Email: kalpoma@aust.edu

Dr. S. M. A. Al-Mamun

Professor, Department of Computing Science and Engineering

Ahsanullah University of Science and Technology

Email: almamun@aust.edu, al_mamun81@yahoo.com

Mr. Faisal Muhammad Shah

Associate Professor, Department of Computer Science and Engineering

Ahsanullah University of Science and Technology

Email: faisal505@hotmail.com

I declare that the all the statements made in this curriculam vitae are correct.

Tonmoy Hossain

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