Amir Hossain Raj

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amirraj.com   Google Scholar

EDUCATION

Doctor of Philosophy in Computer Science   August 2022 - Present
George Mason Uviversity, VA, USA

Bachelor of Science in Computer Science and Engineering   2016 - 2021
Ahsanullah University of Science and Technology, Dhaka
CGPA: 3.85/4.00

WORK EXPERIENCE

Graduate Teaching Assistant   August 2022 - Present
Department of Computer Science
George Mason University

Lecturer   November 2021 - July 2022
Department of Computer Science and Engineering
Ahsanullah University of Science and Technology

Associate Software Engineer   January 2021 - November 2021
Brain Station 23, Dhaka, Bangladesh
· Worked with Research and Development Team as a Machine Learning and AI Engineer

RESEARCH INTERESTS

Reinforcement Learning, Deep Learning, Computer Vision, Navigation and Motion Planning for Autonomous Mobile Robots

TECHNICAL SKILLS

Work experience with C++, Python, PyTorch, ROS, etc.

PUBLICATIONS

Journal

1. Saiful Islam, Aurpan Dash, Ashek Seum, **Amir Hossain Raj**, Tonmoy Hossain, Faisal Muhammad Shah, **"Exploring Video Captioning techniques: A Comprehensive Survey on Deep Learning Methods"**, SN Computer Science 2, no. 2 (2021): 1-28.

Conference

1. **Amir Hossain Raj**, Ashek Seum, Aurpan Dash, Saiful Islam, Faisal Muhammad Shah, **"Deep Learning Based Video Captioning in Bengali"**, The 26th IEEE International Conference on Automation and Computing (ICAC'21).

2. Ashek Seum, **Amir Hossain Raj**, Shadman Sakib, Tonmoy Hossain, **"A Comparative Study of CNN Transfer Learning Classification Algorithms with Segmentation for COVID-19 Detection from CT Scan Images"**, In 2020 11th International Conference on Electrical and Computer Engineering (ICECE), pp. 234-237. IEEE, 2020.

3. Suvom Shaha, Faisal Muhammad Shah, **Amir Hossain Raj**, Ashek Seum, Saiful Islam, Sifat Ahmed, **"Video Captioning in Bengali With Visual Attention"**, 2022 25th International Conference on Computer and Information Technology (ICCIT).

Preprint

1. **A. H. Raj**, Z. Hu, H. Karnan, R. Chandra, A. Payandeh, L. Mao, P. Stone, J. Biswas, and X. Xiao. Targeted Learning: A Hybrid Approach to Social Robot Navigation. under review, 2023.

2. B. Panigrahi, **A. H. Raj**, M. Nazeri, and X. Xiao. A Study on Learning Social Robot Navigation with Multimodal Perception. under review, 2023.

UNDERGRADUATE THESIS

Video Captioning in Bengali using Deep Learning 2019-2020
Topic: Sequence to Sequence Model, Attention Mechanism

Developed a novel deep learning architecture to describe any short video clip with a single Bengali sentence.

PROFESSIONAL DEVELOPMENT

Deep Learning Jun 2020 - Aug 2020
deeplearning.ai, Coursera 'Specialization'

· Five course specialization covering Convolutional Neural Networks, Recurrent Neural Networks, Hyperparameter tuning, etc.

ACHIEVEMENTS AND PARTICIPATION:

- "Dean's List of Honor" (based on B.Sc. result)
- Secured **2nd position** in Intra AUST Programming Contest Fall-17
- Participated in Intra AUST Programming Contest Spring-16, Spring-17, Fall-18
- Participated in Hackathon at BUP ICT Fest-2018
- Participated in Idea Contest in FABFEST-2018 by FABLAB DU at University of Dhaka
- Participated in Line Following Robot event at Intra AUST Technomania Spring 2016

REFERENCES

Xuesu Xiao
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Dept of Computer Science
George Mason University
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Faisal Muhammad Shah
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Ahsanullah University of Science and Technology
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