Toqi Tahamid Sarker

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OBJECTIVE

First-year Computer Science Ph.D. student with strong research experience in deep learning and computer vision, seeking a challenging internship position at a top tech company to apply and expand my expertise while contributing to innovative projects.

EDUCATION

Southern Illinois University   Carbondale, USA
Ph.D. Computer Science, Current GPA: 4.0/4.0   *Aug. 2023 - Present*

BRAC University   Dhaka, Bangladesh
B.S. Computer Science; GPA: 3.31/4.00   *Sep. 2012 – Dec. 2016*

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, Java
Deep Learning Frameworks: PyTorch, MMSegmentation, MMDetection
Computer Vision Techniques: Semantic Segmentation, Image Classification, Object Detection
Other Tools: LaTeX, Git, PostgreSQL

RESEARCH EXPERIENCE

Graduate Research Assistant   Aug. 2023 – Present
BASE Lab, Southern Illinois University   Carbondale, USA
Methane Gas Segmentation | *PyTorch, MMSegmentation, scikit-image* | 🎧 Code   Aug. 2023 – Mar. 2024
- Developed a transformer-based semantic segmentation architecture for methane gas detection
- Created two datasets using FLIR GF77 optical gas imaging camera for diverse scenario evaluation
- Achieved state-of-the-art performance in challenging low-contrast scenarios
- Potential impact: Enhanced livestock methane emission monitoring for environmental protection

Graduate Research Assistant   Aug. 2018 – Aug. 2019
Panacea Lab, Georgia State University   Atlanta, USA
Solar Event Tracking | *Caffe, SunPy* | 🎧 Code   Mar. 2019 – Aug. 2019
- Created a large-scale solar dataset with over 500,000 images from NASA's Solar Dynamics Observatory
- Implemented GOTURN deep regression network for continuous solar event tracking
- Improved space weather forecasting capabilities through advanced event tracking

RESEARCH PUBLICATIONS

CONFERENCE PROCEEDINGS

[1] T. T. Sarker, M. G. Embaby, K. R. Ahmed, A. Abughazaleh. **Gasformer: A Transformer-based Architecture for Segmenting Methane Emissions from Livestock in Optical Gas Imaging**. In: *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops.* June 2024, pp. 5489–5497.

[2] T. T. Sarker, J. M. Banda. **Solar Event Tracking with Deep Regression Networks: A Proof of Concept Evaluation**. In: *2019 IEEE International Conference on Big Data (Big Data)*. IEEE. 2019, pp. 4942–4949.

ADDITIONAL EXPERIENCE

Reviewer, *IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops*   Mar. 2024 – Apr. 2024
Graduate Teaching Assistant, *CSC 1010 - Computers and Applications, Georgia State University*   Summer, 2019
Graduate Teaching Assistant, *CSC 4980/6980 - Blockchain and Applications, Georgia State University*   Spring, 2019

ACHIEVEMENT

Kaggle Competition (Top 17%) | *The Nature Conservancy Fisheries Monitoring*   Dec. 2016 – Apr. 2017