

Mamshad Nayeem Rizve

✉ nayeemrizve@gmail.com | 📞 407 978 7906 | 🌐 Website | **in** LinkedIn | 📄 Google Scholar | 🐙 GitHub

EDUCATION

Center for Research in Computer Vision, University of Central Florida

PhD in Computer Science

August 2023

MS in Computer Science

December 2022

Advisor: Prof. Mubarak Shah

Bangladesh University of Engineering and Technology

BSc in Electrical and Electronic Engineering

March 2016

EXPERIENCE

Postdoctoral Scientist, Amazon Search Science & AI

August 2023–Present

- Working at the intersection of video understanding and large language models.

Graduate Research Assistant, Center for Research in Computer Vision

August 2018–August 2023

- Worked on video activity detection. Performed localization and classification of actions from untrimmed video sequences on a multi-label and multi-class dataset. Achieved *first* place in ActEV SDL 2020 challenge (ActivityNet Challenge, CVPR-2020) and *second* position in TRECVID 2019 challenge.
- Worked on incorporating visual odometry based relative motion for improving cross-view video geo-localization.
- Worked on recognition of camera trapped animals from a highly imbalanced dataset.

Research Intern, Microsoft

May 2022–July 2022

- Worked on weakly supervised temporal action localization (WTAL) and proposed the first method to approach WTAL from a *localization-by-localization* perspective by generating pseudo-action snippets.
- Proposed to exploit the underlying spatio-temporal regularities in videos in the form of action-specific scene prior, action snippet generation prior, and learnable Gaussian prior to complement the video-level weak supervision.
- Obtained significant improvement over previous state-of-the-art on multiple benchmark datasets.

Software Engineering Intern, Aurora Innovation

May 2021–August 2021

- Worked on emergency-vehicle detection based on siren audio data.
- Created an emergency-vehicle siren dataset and implemented the baseline and state-of-the-art audio classification methods for emergency-vehicle detection.
- Improved over the state-of-the-art methods by incorporating self-supervision and knowledge distillation.

System Engineer, Grameenphone Limited

September 2016–July 2018

- Supervised and monitored a transmission network consisting of more than 15000 nodes.
- Developed an analytical tool to identify microwave links with line of sight problem based on received signal level.
- Member of one of the finalist teams of Telenor Group's global entrepreneurship program.

SELECTED PUBLICATIONS

- Shashanka Venkataramanan, **Mamshad Nayeem Rizve**, João Carreira, Yuki M. Asano, Yannis Avrithis; **Is ImageNet worth 1 video? Learning strong image encoders from 1 long unlabelled video**; International Conference on Learning Representations (ICLR) 2024 (Oral Presentation)
- Sirnam Swetha, **Mamshad Nayeem Rizve**, Nina Shvetsova, Hilde Kuehne, Mubarak Shah; **Preserving Modality Structure Improves Multi-Modal Learning**; International Conference on Computer Vision (ICCV) 2023
- Sarinda Samarasinghe, **Mamshad Nayeem Rizve**, Navid Kardan, Mubarak Shah; **CDFSL-V: Cross-Domain Few-Shot Learning for Videos**; International Conference on Computer Vision (ICCV) 2023

- Sabbir Ahmed*, Abdullah Al Arafat*, **Mamshad Nayeem Rizve***, Rahim Hossain, Zhishan Guo, Adnan Siraj Rakin; **SDDA: Secure Source-Free Domain Adaptation**; International Conference on Computer Vision (**ICCV**) 2023
- **Mamshad Nayeem Rizve***, Gaurav Mittal*, Ye Yu, Matthew Hall, Sandra Sajeev, Mubarak Shah, Mei Chen; **PivoTAL: Prior-Driven Supervision for Weakly-Supervised Temporal Action Localization**; Conference on Computer Vision and Pattern Recognition (**CVPR**) 2023
- Ishan Dave, **Mamshad Nayeem Rizve**, Chen Chen, Mubarak Shah; **TimeBalance: Temporally-Invariant and Temporally-Distinctive Video Representations for Semi-Supervised Action Recognition**; Conference on Computer Vision and Pattern Recognition (**CVPR**) 2023
- **Mamshad Nayeem Rizve**, Navid Kardan, Mubarak Shah; **Towards Realistic Semi-Supervised Learning**; European Conference on Computer Vision (**ECCV**) 2022 (Oral Presentation)
- **Mamshad Nayeem Rizve**, Navid Kardan, Salman Khan, Fahad Shahbaz Khan, Mubarak Shah; **OpenLDN: Learning to Discover Novel Classes for Open-World Semi-Supervised Learning**; European Conference on Computer Vision (**ECCV**) 2022
- Nazmul Karim, **Mamshad Nayeem Rizve**, Nazanin Rahnavard, Ajmal Mian, Mubarak Shah; **UNICON: Combating Label Noise Through Uniform Selection and Contrastive Learning**; Conference on Computer Vision and Pattern Recognition (**CVPR**) 2022
- Ishan Dave, Rohit Gupta, **Mamshad Nayeem Rizve**, Mubarak Shah; **TCLR: Temporal Contrastive Learning for Video Representation**; Computer Vision and Image Understanding (**CVIU**) 2022
- **Mamshad Nayeem Rizve**, Salman Khan, Fahad Shahbaz Khan, Mubarak Shah; **Exploring Complementary Strengths of Invariant and Equivariant Representations for Few-Shot Learning**; Conference on Computer Vision and Pattern Recognition (**CVPR**) 2021
- **Mamshad Nayeem Rizve**, Kevin Duarte, Yogesh S Rawat, Mubarak Shah; **In Defense of Pseudo-Labeling: An Uncertainty-Aware Pseudo-Label Selection Framework for Semi-Supervised Learning**; International Conference on Learning Representations (**ICLR**) 2021
- **Mamshad Nayeem Rizve**, Ugur Demir, Praveen Tirupattur, Aayush Jung Rana, Kevin Duarte, Ishan Dave, Yogesh Singh Rawat, Mubarak Shah; **Gabriella: An Online System for Real-Time Activity Detection in Untrimmed Security Videos**; International Conference on Pattern Recognition (**ICPR**) 2020 (Best Paper Award)

SKILLS

Programming	Python, MATLAB, C/C++, Assembly, SQL
Libraries	Deep learning (Pytorch, Keras, Tensorflow), OpenCV

HONORS AND AWARDS

- Best Paper Award at ICPR –2020
- UCF ORC Doctoral Fellowship – 2018
- BUET Dean's List – 2012, 2015
- Education Board Scholarship – 2008, 2010