Hayat Ullah

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GitHub: https://github.com/hayatkhan8660-maker
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Google Scholar: https://scholar.google.com.pk/citations?user=xnXPj0UAAAAJhl=en

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EDUCATION

Florida Atlantic University, Boca Raton, Florida, USA
Ph.D. in Computer Science (Continue)
Adviser: Arslan Munir

Sejong University, Seoul, South Korea
Master's in Computer Science (March 2019 - January 2021)
Adviser: Jong Weon Lee

RESEARCH INETERESTS

Human Action Recognition, Temporal Action Localization, Spatio-Temporal Action Detection, Vision-Language Models for Video Analytics, Knowledge Distillation, and Adversarial Robustness.

WORK AND RESEARCH EXPERIENCE

Graduate Research Assistant at Florida Atlantic University (August 2024 - Present)
• Leading the project on *A Multimodal Attention-Based Deep Learning Framework for Real-Time Activity Recognition at the Edge*.
• Developing Transformer architectures (Multi-Head Self Attention) and Vision-Language Models (VLMs) for human action recognition and temporal action localization in untrimmed videos.

Graduate Research Assistant at Kansas State University (January 2022 - July 2024)
• Led the research project on human action recognition, temporal action localization, and spatio-temporal action detection in videos.
• Contributed to several research projects including aerial imagery analysis, data annotation, and dataset creation., and developed efficient codebases for video analytics tasks.

Machine Learning Engineer (Intern) at NINE VR (July 2020 - December 2020)
• Designed Human-Computer Interaction solutions for VR/AR applications for immersive experiences.
• Developed an AR prototype with object tracking for monitoring HMD user interactions and a vision-assisted AR Projection application for plant prototypes.

SELECTED PUBLICATIONS

• Hayat Ullah, Muhammad Ali Shafique, Abbas Khan, Arslan Munir, "DVFL-Net: A Lightweight Distilled Video Focal Modulation Network for Spatio-Temporal Action Recognition" Submitted in **IEEE TCSVT** (2024).
• Hayat Ullah, Abbas Khan, Arslan Munir, "OD-VIRAT: A Large-Scale Benchmark for Object Detection in Realistic Surveillance Environments" Submitted to **ACM Transactions on MCCA** (2024).
• Khan Muhammad, Tanveer Hussain, Hayat Ullah, Javier Del Ser, Neeraj Kumar, Mohammad Hijji, Paolo Bellavista, Victor Hugo C. de Albuquerque, "Vision-based Semantic Segmentation in Scene Understanding for Au- tonomous Driving: Recent Achievements, Challenges, and Outlooks" **IEEE TITS** (2022).
• Khan Muhammad, Hayat Ullah, Salman Khan, "Efficient Fire Segmentation for IoT-Assisted Intelligent Transportation Systems" **IEEE TITS** (2022).
• Hayat Ullah, K. Muhammad, M. Irfan, A. S Imran, M. Sajjad, " Light-DehazeNet: A Novel Lightweight CNN Architecture for Single Image Dehazing". **IEEE TIP** (2021)
• Khan Muhammad, Hayat Ullah, Mohammad S Obaidat, Amin Ullah, Arslan Munir, Muhammad Sajjad, Victor Hugo C De Albuquerque, "AI-driven salient soccer events recognition framework for next-generation IoT-enabled environments". **IEEE IoTJ** (2021)

PROFESSIONAL SERVICES

Reviewer for AAAI, IEEE Transcations on Image Processing, IEEE Transactions on Multimedia, Elsevier Journal of Image and Vision Computing, and IEEE Access.

CODING SKILLS

Programming Languages: Python, C++, and Matlab.
Python Libraries: OpenCV, Scikit-learn, Scikit-image, Matplotlib, Seaborn, and Pandas etc.
Deep Learning Frameworks: PyTorch, Tensorflow, and Keras.
Miscellaneous: Linux, Shell (Bash/Zsh), and Git.