Dominick Reilly

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Research Interest

Designing video understanding systems that use multiple modalities, such as vision, language, and pose, to reason about human behavior and actions.

Education

University of North Carolina at Charlotte   *Aug 2022 - Present*
Ph.D. Student in Computer Science, GPA: 3.88
Advisor: Dr. Srijan Das

University of North Carolina at Charlotte   *Jan 2019 - May 2022*
Bachelor of Science in Computer Science, GPA: 4.0

Experience

Inria, Sophia Antipolis, France   *Jan 2024 - Jun 2024*
Research Intern - STARS Team (Chateaubriand Fellowship)
- Vision-language models for understanding daily living actions from video.
- Incorporating pose modality into vision-language models (CLIP) for better zero-shot understanding of daily living actions from video.

University of North Carolina at Charlotte   *Aug 2022 - Present*
Research Assistant - Charlotte Machine Learning Lab
- Multi-modal (RGB + Pose) and viewpoint agnostic video transformers for understanding human actions containing subtle appearance and motion. [1]
- Self-supervised learning and masked autoencoders for training ViTs on small, out-of-domain data distributions. [2]

University of North Carolina at Charlotte   *Jul 2021 - Jul 2022*
Research Assistant - Data Privacy Lab
- Safeguarding face and iris images from deep-learning based re-identification models. [4]
- Created interactive webpage demonstrating safeguards on face and iris images. Try the demo for yourself! http://3.223.148.187/. [3]

Publications https://scholar.google.com/citations?user=YlFKOTkAAAAJ

1. **Dominick Reilly**, Srijan Das, "Just Add π! Pose Induced Video Transformers for Understanding Activities of Daily Living," arXiv:2311.18840 (Under review in CVPR), 2024.
2. Srijan Das, Tanmay Jain, **Dominick Reilly**, Pranav Balaji, Soumyajit Karmakar, Shyam Marjit, Xiang Li, Abhijit Das, Michael Ryoo, "Limited Data, Unlimited Potential: A Study on ViTs Augmented by Masked Autoencoders," IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2024.
3. Muhammad Saleem, **Dominick Reilly**, Liyue Fan, "DP-Shield: Face Obfuscation with Differential Privacy," International Conference on Extending Database Technology (EDBT), 2022.

4. **Dominick Reilly**, Liyue Fan, "Comparative Evaluation for Differentially Private Image Obfuscation," IEEE International Conference on Trust, Privacy and Security in Intelligent Systems, and Applications (IEEE TPS), 2021.

Academic Activities

- Reviewer at AAAI 2024, AAAI 2023, AI4HC 2023

Awards

1. The Chateaubriand Fellowship (awarded by the Embassy of France to U.S. Ph.D. students to conduct 4 months of research in France), 2023
2. Best poster award in Mathematics and Computer Science, UNC Charlotte Undergraduate Research Conference, 2020