

Dominick Reilly

✉ dreilly1@charlotte.edu 🏠 dominickrei.github.io 🌐 dominickrei

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 at <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), 2023
2. Best poster award in Mathematics and Computer Science, UNC Charlotte Undergraduate Research Conference, 2020