Dominick Reilly

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Research Interests

My research focuses on understanding human actions in videos, specifically daily-living actions that are observed in real-world environments. I am interested in utilizing both egocentric and third person viewpoints, as well as combining multiple modalities, to accomplish my research goals.

Education

University of North Carolina at Charlotte *August 2021 - Present*
Doctor of Philosophy, Computer Science *Overall GPA:* 4.0
Advisor: Dr. Srijan Das

University of North Carolina at Charlotte *January 2019 - May 2021*
Bachelor of Science, Computer Science *Overall GPA:* 4.0
Minor in Statistics

Experience

University of North Carolina at Charlotte *August 2022 - Present*
Research Assistant - Computer Vision Lab

- Using vision transformers to understand activities of daily living videos.
- Developed strategies for learning pose-aware representations in vision transformers using RGB and pose modalities. These representations are effective for many downstream CV tasks.

University of North Carolina at Charlotte *July 2021 - July 2022*
Research Assistant - Data Privacy Lab

- Designed image obfuscation mechanisms satisfying differential privacy.
- Created a webpage demonstrating differentially private image obfuscation.
- This work was published at IEEE TPS 2021 and as a demo at EDBT 2022: http://3.223.148.187/.

Publications

1. **Dominick Reilly**, Aman Chadha, Srijan Das, "Seeing the Pose in the Pixels: Learning Pose-Aware Representations in Vision Transformers," under review, 2023.
2. Srijan Das, Tanmay Jain, **Dominick Reilly**, Soumyajit Karmakar, Shyam Marjit, Xiang Li, Michael Ryoo, "From Few to More: Enhancing ViT Performance on Limited Data," under review, 2023.
3. Muhammad Usama 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 2023, AI4HC 2023

Awards

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