Curriculum Vitae

Dominick Reilly

Department of Computer Science
University of North Carolina at Charlotte
Charlotte, NC 28223

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Education

University of North Carolina at Charlotte   *August 2021 - Present*
Doctor of Philosophy, Computer Science
Advisor: Dr. Min C. Shin

University of North Carolina at Charlotte   *January 2019 - May 2021*
Bachelor of Science in Computer Science, Minor in Statistics
Honors: *Summa Cum Laude* (GPA: 4.0)
Notable Coursework: Machine Learning, Natural Language Processing, Computer Vision, Linear Algebra, Time Series Analysis, Applied Regression, Statistics I & II, Calculus I-III

Skills

Proficient   Python, PyTorch, Keras, Scikit, Slurm, Git
Familiar   Flask, HTML/CSS, JavaScript, Matlab, C, Tableau, R

Experience

University of North Carolina at Charlotte, Charlotte NC   *August 2021 - Present*
Research Assistant - Video and Image Analysis Lab, Data Privacy Lab

- Developed and evaluated machine learning models for classifying social interaction of stroke survivors from pre-generated speech features and sparsely labeled training data
- Collaborated with software engineers to implement an audio feature extraction pipeline onto a wearable device. Features were log Mel-spectrograms and ECAPA-TDNN speaker embeddings
- *With Data Privacy Lab*: Assisted in writing workshop demo paper and software for my work on differentially private image obfuscation

University of North Carolina at Charlotte, Charlotte NC   *August 2020 - July 2021*
Undergraduate Research Assistant - Data Privacy Lab

- Designed, implemented, and evaluated image obfuscation techniques that satisfied rigorous mathematical privacy guarantees, namely differential privacy (DP)
- Conducted experiments evaluating the efficacy of DP image obfuscation techniques against practical privacy attacks and evaluating standard utility measures
- Gained experience in scientific writing and presenting. I designed and presented one poster, wrote a scientific paper, and gave numerous paper presentations to the lab

University of North Carolina at Charlotte, Charlotte NC *August 2019 - July 2021*
   Undergraduate Research Assistant - Video and Image Analysis Lab

- Optimized and implemented state of the art deep learning models to localize and segment objects of interest in videos of biological objects
- Designed algorithms to improve orientation estimation of biological object tracking systems. This work resulted in a 90% reduction in the estimated orientation error of tracked objects
- Assisted leading a team of undergraduate students who joined the project over summer semester

Publications

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

Presentations

1. **Dominick Reilly**, "SocialBit: A Non-invasive and Robust Solution for Measuring Social Interaction," EXPLORE - Community Event, UNC Charlotte (2021)
2. **Dominick Reilly**, "SocialBit: A Non-invasive and Robust Solution for Measuring Social Interaction," Graduate Research Seminar, UNC Charlotte (2021)

Awards, Notable Achievements

1. Recieved best poster award in the Mathematics and Computer Science Discipline at UNC Charlotte's undergraduate research conference for my poster, "Evaluating Provably Private Obfuscations for Eye and Face Images" (2020)

2. Chancellor's List (2019-2021)