# Dominick Reilly

Department of Computer Science
University of North Carolina at Charlotte

**Website/GitHub**: dominickrei.github.io
**Email**: dreilly1@uncc.edu

## Education

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

**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)

## Experience

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

- Objective: Video representation learning to classify human activities using vision transformers
- Designed spatio-temporal attention mechanisms exploiting 3D pose modality and RGB to recognize activities of daily living on the Toyota Smarthome dataset
- Implemented and trained vision transformer models from scratch on large vision datasets

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

- Objective: Design and evaluate provably private image obfuscation mechanisms
- Designed and implemented pixel sampling based image obfuscation mechanism satisfying rigorous mathematical privacy guarantees (differential privacy). This work is published in IEEE TPS 2022
- Worked with other student to create a manuscript and webpage demonstrating differentially private image obfuscation. This work is published in EDBT 2022

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

- Objectives: 1) Incorporate deep learning based object detection into biological motion tracker. 2) Improve orientation estimation algorithm while maintaining real-time performance
- Trained and optimized state of the art convolutional neural networks (CNN) to localize and segment objects of interest in videos containing biological objects
- Proposed and designed algorithms improving orientation estimation of object tracking systems, resulting in a 90% reduction in estimated orientation error
- Mentored a team of undergraduate students

## Skills

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