

Nyle Siddiqui

nylesiddiqui1@gmail.com | 612-206-0979

[Website](#) | [LinkedIn](#) | [Github](#) | [Google Scholar](#)

SUMMARY

- Currently pursuing a Ph.D. in Computer Science (Computer Vision) advised by Dr. Mubarak Shah
- NSF GRFP 2024 Honorable Mention
- B.Sc. Double Major in Computer Science and Applied Mathematics + Statistics

EDUCATION

UNIVERSITY OF CENTRAL FLORIDA

Expected Graduation: May 2027

PH.D STUDENT IN COMPUTER SCIENCE AT THE CENTER FOR RESEARCH IN COMPUTER VISION (CRCV)

UNIVERSITY OF WISCONSIN - EAU CLAIRE

Graduated: May 2022

B.SC IN COMPUTER SCIENCE AND APPLIED MATHEMATICS WITH STATISTICS EMPHASIS (DOUBLE MAJOR)

- GPA: 3.76/4.00
- Graduated Magna Cum Laude with both University and Departmental (Computer Science) Honors

SELECTED PAPERS

[1] DVANET: DISENTANGLING VIEW AND ACTION FEATURES FOR MULTI-VIEW ACTION RECOGNITION

Siddiqui N., Tirupattur P., Shah M. (2023). Proceedings of the AAAI Conference on Artificial Intelligence, 38(1). [Link](#)

[2] LEVERAGING DIFFUSION AND LARGE LANGUAGE MODELS FOR CLOTHES-CHANGING RE-ID

Siddiqui N., Croitoru A., Nayak G., Shah M. Under review, European Conference on Computer Vision (ECCV) 2024

[3] ML AND DL APPLICATIONS TO MOUSE DYNAMICS FOR CONTINUOUS USER AUTHENTICATION

Siddiqui N., Dave R., Vanamala M., Seliya N. (2022). Machine and Deep Learning Applications to Mouse Dynamics for Continuous User Authentication. Machine Learning and Knowledge Extraction, 4(2), 502-518. [Link](#)

RESEARCH EXPERIENCE

CRCV PHD STUDENT

September 2022 - Current

- Currently in my 3rd year of conducting research supervised by Dr. Mubarak Shah. My main research topics include:
 - Generative Video Diffusion Models
 - Disentangled Representation Learning
 - Person + Action Recognition in Videos
- First authored a paper in my first year, accepted at AAAI 2024.
- Second first-author paper under review at NeurIPS 2024.
- Another first-author paper under review at IROS 2024.

AIMS SENIOR RESEARCHER

September 2020 - May 2022

- Conducted research alongside Dr. Rushit Dave in the Artificial Intelligence and Machine Learning for Security (AIMS) Research Lab at UWEC
- Research topics included
 - Machine/Deep Learning for User Authentication
 - Smart Cities, Data Security in Autonomous Vehicles
 - IoT Devices

NSF-REU PARTICIPANT - UNIVERSITY OF MINNESOTA

June 2020 - September 2020

- Conducted research in the Interactive Robotics and Vision Lab at the University of Minnesota under the supervision of Dr. Junaed Sattar
- Researched deep learning methods to calculate and mitigate risk in autonomous underwater robotic vision environments. This research experience was funded by the National Science Foundation for 3 months in the summer

PERSONAL PROJECTS

NEURAL NETWORK FROM SCRATCH

June 2020 - August 2020

Created a feed-forward neural network from scratch (no external machine learning libraries) that self-learns how to correctly identify handwritten digits from the MNIST database. Designed with multiple optimizers and activation functions, weight regularization, learning rate decay, and more. Can be found in my [GitHub](#).

TEACHING EXPERIENCE

NSF REU MENTOR

June 2023 - Current

- The CRCV is home to the longest running NSF-funded REU in the nation. As a PhD student, I have been a mentor to three REU students in the past 2023 and 2024 programs

UNDERGRAD RESEARCH MENTOR

September 2021 - May 2022

- Helped introduce and mentor new students joining AIMS who are interested in starting research
- Personally mentored two undergraduate researchers as they expanded on my previous research project, which led to a publication: "Continuous User Authentication Using Machine Learning and Multi-Finger Mobile Touch Dynamics with a Novel Dataset"

AIMS WORKSHOP INSTRUCTOR

May 2021 - November 2021

- Co-instruct and co-create original material for 2-day instructional deep/machine learning-based workshops
- Past workshop titles include
 - Python and An Introduction to Machine Learning
 - An Exploration of Game Theory and Deep Reinforcement Learning
- These free workshops were hosted by the AIMS research lab with participants consisting of high school students, UWEC undergraduates, and adults from the surrounding Eau Claire community
- Created with the intent of contributing to the community as well as providing all students from UWEC and surrounding high schools a quality and supportive introduction into increasingly attractive computer science topics

UWEC MATH TUTOR

November 2018 - May 2022

Tutored undergraduate students in college-level courses, including

- College Geometry and College Algebra
- Pre-Calculus and Calculus I-III
- Statistics, Trigonometry, Linear Algebra and Probability Theory

GRANTS/AWARDS

CO-AUTHORED GRANTS

- Computer Science Student/Faculty Research Collaboration Grant (\$2,800)
- UWEC Summer Research Grant (\$3,000)
- Computer Science Student/Faculty Research Collaboration Grant (\$2,000)
- Computer Science Student/Faculty Research Collaboration Grant (\$2,000)

Fall 2021
Summer 2021
Spring 2020
Fall 2020

RECIPIENT

- UCF ORCGS Doctoral Fellowship (\$25,000) *Fall 2022-27*
 - Awarded to the top incoming doctoral students at the University of Central Florida. Provides guaranteed GRA funding throughout the entire PhD. Awarded by Dr. Mubarak Shah
- UWEC Diversity Mentoring Grant (\$2,000) *Fall 2021*
 - Awarded for excellent undergraduate research conducted by a student from a marginalized community.
- National Science Foundation Research Experience for Undergraduates Grant (\$9,500) *Summer 2021*
 - Awarded by the NSF to conduct research at the University of Minnesota

UWEC SCHOLARSHIPS

- Shyam Chadha Mathematics Scholarship (\$1,000)
- Phillip S. Zivnuska Mathematics Scholarship (\$1,000)
- UWEC Freshman Honors Scholarship (\$1,000)

Fall 2021
Spring 2020
Fall 2018