

# Nyle Siddiqui

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

## SUMMARY

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- 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

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### UNIVERSITY OF CENTRAL FLORIDA

*Expected Graduation: December 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

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### [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] DLCR: LEVERAGING DIFFUSION AND LARGE LANGUAGE MODELS FOR CLOTHES-CHANGING RE-ID

Siddiqui N., Croitoru A., Nayak G., Shah M. (2025). IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), Main Algorithms Track. To appear.

### [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](#)

### [4] STRETCHYSNAKE: A FLEXIBLE VIDEOMAMBA FOR SHORT AND LONG FORM ACTION RECOGNITION

Siddiqui N., Gupta R., Sirnam, S., Shah M. **Under review**, International Conference on Learning Representations (ICLR) 2025

## RESEARCH EXPERIENCE

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### 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 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 accepted at WACV 2025.
- Another first-author paper under review at ICLR 2025.

### 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
- Main research topic: Machine/Deep Learning for User Authentication

### 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

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### 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

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### 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 lead 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

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### 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
- National Science Foundation Graduate Research Fellowship Program (NSF-GRFP) Honorable Mention *Fall 2024*
  - Per NSF: "The NSF accords Honorable Mention to meritorious applicants who do not receive Fellowship offers. This is considered a significant national academic achievement."
- 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*