

# Nicholas W. Sutton

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## Experience

### Robotics Undergraduate Researcher

May 2025 – Present

*Hybrid Intelligent Experimental Robotics (HIER) Lab - North Carolina State University*

*Raleigh, NC*

- Developed a Python teleoperation system for the Unitree Go2 quadrupedal robot, processing real-time motion capture data from a 6-camera OptiTrack system at 240Hz
- Designed a Temporal Convolutional Neural Network, achieving 95.46% accuracy in classifying 8 human gait modes from 34 biomechanical features derived from motion capture data
- Implemented causal TCN architecture with dilated convolutions and attention mechanisms, outperforming baseline CNN models by 6% for real-time gait classification

## Projects

### Fetch-MC | Rust, Tokio, Clap

- Built a Rust CLI tool to automate Minecraft mod management by parsing TOML configs and fetching version-compatible add-ons via the Modrinth API
- Implemented asynchronous API requests using Tokio to enable concurrent fetching of multiple mods, reducing download time for large modpacks

### Munchie Bot | Python3, PlayWright, Discord.py, Asyncio

- Engineered an automated Discord bot serving users with real-time Epic Games promotion alerts, reducing manual monitoring effort and ensuring zero missed opportunities
- Implemented asynchronous web scraping architecture to parse JSON and HTML data from Epic Games, achieving non-blocking data retrieval and consistent uptime

## Technical Skills

- **Languages:** C/C++, Rust, Python, Julia, Go, Java
- **Technologies:** ROS2, PyTorch, OpenCV, Mujoco, Git, Linux, Docker

## Education

### North Carolina State University

Raleigh, NC

*Bachelor of Science in Computer Science (Honors), Minor in Mathematics | GPA: 3.745*

*May 2027*

### Asheville-Buncombe Technical Community College

Asheville, NC

*Associate of Science in Computer Science | GPA: 4.0*

*Aug. 2022 – Jun. 2024*

## Extracurricular Activities

### Webmaster and Technical Committee Lead

Nov. 2025 – Present

*Association for Computing Machinery at North Carolina State University*

*Raleigh, NC*

- Designed and maintained the ACM chapter website
- Led the Technical Committee in organizing and executing collaborative coding projects
- Organized technical talks and hands-on coding workshops

### Peer Mentor and Computer Science Tutor

Aug. 2025 – Present

*Goodnight Scholars Program*

*Raleigh, NC*

- Mentored transfer students through academic transition via one-on-one meetings and resource guides covering course selection, campus navigation, and social integration
- Provided peer tutoring in upper-level CS courses, including Software Development, Operating Systems, Algorithms, and Computational Theory

## Awards and Honors

### Goodnight Scholars Program | Transfer Scholar

A Full-Ride Scholarship program at North Carolina State University that provides opportunities for community service, professional development, and personal growth for low- and middle-income students majoring in STEM.