

Matthew Romano, PhD

ROBOTICS RESEARCHER · SOFTWARE ENGINEER

🏠 Ann Arbor, MI | ✉ mmroma@umich.edu | 🌐 romano-matthew | www.matthewromano.com

Experience

SkySpecs

ROBOTICS AUTONOMY ENGINEER

Ann Arbor, MI

September 2022 - Present

- Making renewable energy more affordable via autonomous UAS wind turbine inspection

University of Michigan (UMich)

RESEARCHER, SOFTWARE ENGINEER, INSTRUCTOR

Ann Arbor, MI

September 2017 - August 2022

- Developed an opensource quadrotor and flight controller that integrates reliable, low-latency motion capture feedback
- Led a team to win the AFRL Swarm and Search AI Competition, a 3-month hackathon focused on multi-UAS wildfire mapping
- Developed a novel haptic guidance interface for multilift slung load transportation with real user experiments
- Designed a novel high density airspace management strategy that can handle pop-up obstacles and vehicle failures
- Demonstrated an autonomous roofing concept via a nailgun-equipped octocopter with a video that received nearly 400,000 views
- Taught EECS 592: Foundations of Artificial Intelligence as a graduate student instructor
- Co-developed and co-taught ROB 103: Robotic Mechanisms, a new first-year, hands-on robotics course

National Security Innovation Network (NSIN)

INDEPENDENT CONSULTANT

Ann Arbor, MI

January 2020 - June 2020

- Interviewed DoD personnel and reviewed maintenance workflows to understand maintenance data challenges
- Proposed system to assist DoD maintainers in data collection via audio/video information extraction using CV/NLP

Sprite Robotics

ROBOTICS FIRMWARE ENGINEER

Champaign, IL

January 2017 - May 2017

- Researched and implemented autonomous navigation strategies for a robotic cat toy platform
- Developed future product ideas including an immersed experience via a 360 degree camera

Bretl Lab, University of Illinois Urbana-Champaign (UIUC)

UNDERGRADUATE RESEARCH ASSISTANT

Champaign, IL

October 2015 - December 2016

- Compared performance of monocular simultaneous localization and mapping (SLAM) algorithms.
- Improved feature tracking algorithms through integration of inertial measurement unit (IMU) data.

Education

University of Michigan (UMich)

PHD IN ROBOTICS

Ann Arbor, MI

August 2022

- Dissertation: Planning, Control, and Estimation for Diverse Multi-UAS Missions. Advisor: Ella M. Atkins

MS IN ROBOTICS

May 2019

University of Illinois Urbana-Champaign (UIUC)

BS IN ELECTRICAL ENGINEERING WITH A COMPUTER SCIENCE MINOR. GPA: 3.95

Champaign, IL

December 2016

Honors & Awards

2019	AFRL Swarm and Search AI Competition , First Place Team (\$26,000)	Dayton, OH
2019	Into the Dataverse Hackathon , First Place Team (\$15,000)	Ann Arbor, MI
2019	Engineering Research Symposium Scientific Visualization Award , First Place	Ann Arbor, MI
2016	Lextech Senior Design Most Marketable Project Award , Recipient	Champaign, IL

Additional Skills

Languages	English (Native), Thai (Elementary Proficiency)
Computer	C/C++, Python, MATLAB, MAVLink, Make, Bash, LaTeX, ROS, PCB Design (EAGLE, DipTrace), Inventor, 3D Printing
Other	Proficient in Excel, PowerPoint, and Word. Working knowledge of Windows, MacOS, and Linux based systems.