Ethan M. Clark

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GitHub | LinkedIn | Website

Industry Experience

Institute for Human and Machine Cognition (IHMC) — Pensacola, FL, USA

Robotics Software Engineer Intern — Sept. 2024 – Dec. 2024

- Built an imitation learning pipeline for bipedal locomotion using markerless motion capture and state-of-the-art methods from character animation to produce a robust and stable motion controller for IHMC's humanoid robot, Nadia

Crow Industries Inc. — Scottsdale, AZ, USA

Machine Learning Engineer Intern — June 2024 – Sept. 2024

- Led autonomy development for an unmanned ground vehicle, implementing reinforcement learning (RL) for end-to-end obstacle avoidance and navigation in geographical mapping and mining operations

Academic Experience

Cooperative Robotic Systems Lab — Tempe, AZ, USA

Graduate Researcher — Aug. 2022 – present

Advisor: Dr. Yu Zhang, Arizona State University

- Formalized the Environment Reconfiguration problem, demonstrating how complex RL tasks can be optimized through a two-stage process: first, performing an order-invariant meta-optimization to reconfigure the environment, then allowing agents to operate within this optimized setting, thereby increasing the ceiling on maximum achievable performance
- Developed Commutative RL, a novel algorithm that extends traditional reinforcement learning to efficiently solve order-invariant problems

Nebraska Intelligent Mobile Unmanned Systems Lab — Lincoln, NE, USA

Visiting Undergraduate Researcher — May 2021 – Aug. 2021

Advisor: Dr. Hoang-Dung Tran, University of Nebraska-Lincoln

- Built autonomous emergency brake and lane-keep assist systems for F1Tenth cars, integrating sensor fusion, computer vision, and control algorithms to achieve robust autonomy in high-speed environments

Personal Projects

Co-Bot

- Designed an autonomous mini robot using ROS with real-time tracking, obstacle avoidance, and path planning in dynamic environments

Programming Skills

Languages:	Python, C++, Bash, CUDA
Frameworks:	ROS 2, PyTorch
Simulators:	Isaac Sim, Gazebo, CARLA
Others:	Docker, AWS, Blender, Unity, Captury Live

Education

Arizona State University — Tempe, AZ, USA

M.S. degree in Computer Science — Aug. 2022 – May 2025

Magna Cum Laude — GPA 3.72

Arizona State University — Tempe, AZ, USA

B.S. degree in Computer Science — Aug. 2018 - May 2022

Magna Cum Laude — GPA 3.67