Ethan M. Clark

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GitHub | LinkedIn | Website

Summary

Machine Learning Engineer specializing in reinforcement learning and imitation learning, with direct experience on humanoids and unmanned ground vehicles. Passionate about developing general-purpose robotic systems that can provide value across industries. Research focus on novel RL algorithms and large language models, complemented by full-stack robotics development.

Industry Experience

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

Machine Learning Engineer Intern Sept. 2024 – Dec. 2024

- Built imitation learning pipeline for 23-DOF humanoid locomotion using markerless motion capture, validating in Isaac Sim with domain randomization before successful real-world deployment on IHMC's Nadia robot

Crow Industries Inc. Scottsdale, AZ, USA

Machine Learning Engineer Intern June 2024 – Sept. 2024

- Developed PPO-based RL solution for autonomous navigation, achieving 90% success rate in real-world obstacle avoidance across diverse mining terrains using ROS 2-based perception pipeline with real-time sensor fusion of LiDAR and camera data

Academic Experience

Cooperative Robotic Systems Lab Tempe, AZ, USA

Graduate Research for Dr. Yu Zhang, Arizona State University Aug. 2022 – present

- Formalized Environment Reconfiguration, demonstrating how complex RL tasks can be made easier through optimizing the environment configuration while preserving original objectives
- Developed Commutative RL, a novel algorithm that achieves 30% faster convergence to more optimal solutions on Environment Reconfiguration problems through order-invariant optimization (submitting to ICML 2025)

Center for Personalized Diagnostics Tempe, AZ, USA

Graduate Research for Dr. Jin Park, Arizona State University Jan. 2023 – May 2023

- Fine-tuned a large language model (4M parameters) using Low-Rank Adaptation (LoRA), achieving 83% binary classification accuracy on scRNA data

Nebraska Intelligent Mobile Unmanned Systems Lab Lincoln, NE, USA

Undergraduate Research for Dr. Hoang-Dung Tran, University of Nebraska-Lincoln May 2021 – Aug. 2021

- Developed real-time emergency braking and lane-keeping systems for F1Tenth autonomous racing, integrating LiDAR/camera fusion with reinforcement learning and computer vision algorithms to achieve sub-100ms response time in high-speed autonomous operations

Programming Skills

Languages:	Python, C++
Robotics:	ROS 2, Isaac Sim, Gazebo, CARLA
AI/ML:	PyTorch, OpenCV
DevOps:	Docker, AWS, Git, CI/CD

Education

Arizona State University Tempe, AZ, USA

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

Magna Cum Laude GPA 3.76

Arizona State University Tempe, AZ, USA

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

Magna Cum Laude GPA 3.67