Xander Kehoe

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Skills

Programming Languages: Python, C/C++, C#, Java
Machine Learning: Supervised Learning, Reinforcement Learning, Evolution-Based Optimization Algorithms
Technologies: PyTorch, Tensorflow, NumPy, AWS, Unity

Education

Georgia Institute of Technology – MS in Computer Science - Specialization in Machine Learning   2022 – 2025
University of Tennessee Chattanooga – BS in Computer Engineering   2017 – 2021

Experience

Reinforcement Learning Research Engineer, Leidos / Dynetics – Huntsville, AL   2023 – Present
- Designed and implemented Reinforcement Learning models to solve complex problems in dynamic environments in aerospace & defense applications.
- Utilized cutting-edge tools such as PyTorch, Numpy, and RLLib, to develop and test reinforcement learning algorithms.
- Collaborated with cross-functional teams to integrate reinforcement learning solutions into existing systems.
- Participated in peer reviews and contributed to the refinement of research methodologies and best practices.

Software Engineer, Leidos / Dynetics – Huntsville, AL   2021 – 2023
- Creating software to monitor and control a missile launching system for missile and UAS defensive applications.
- Working as part of a multidisciplinary team to deliver air defense launcher systems for the US military.
- Served as team Scrum Master to facilitate daily standups and sprint reviews as needed.
- Reviewed resumes and participated in phone & panel interviews with applicants for the software engineering team.

Certifications

CompTIA - Security+
AWS - Certified Machine Learning Speciality

Projects

Open Source Contributor - PufferLib   github.com/PufferAI/PufferLib
- Developed "Trash Pickup," a high-performance multi-agent reinforcement learning environment, integrated into the "Ocean" suite.
- Achieved exceptional simulation speed (~250,000 steps/second on standard at-home hardware), enabling rapid experimentation.
- Designed the environment with extensive configurability, supporting variations in size, number of agents, and task complexity to suit diverse research needs.

RPG Game AI Team Coordinator   github.com/XanderKehoe/RpgBossFightMachineLearning
- Created an RPG style environment in Unity incorporating 3D models & animations and implemented complex combat mechanics such as attack damage & speed effects, critical hits, and other modifiers seen in typical RPG style games.
- Designed and trained a PPO-based reinforcement learning agent using Unity ML-Agents to coordinate five 'player' characters, optimizing actions like movement and ability selection to defeat a powerful 'dragon' boss.
- Achieved a significant performance milestone, evolving the AI from failure to consistently defeating the boss efficiently, showcasing practical applications of reinforcement learning in game development.