Distributed Learning Using Unity ML-Agents

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**Distributed Computing CPSC 4387**

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1. *TITLE:* **Distributed Learning Using Unity ML-Agents**
2. *PROJECT DESCRIPTION:* This project is based around Unity’s ML-Agents package and tools. By utilizing a distributed system and a planned bottleneck of slower learning rate to improve performance, the goal of this project is to show how multiple learning environments can contribute to the performance of an agent in a simulated task.
3. *TOOLS TO BE USED:* Unity, Unity ML-Agents package, Python, Anaconda-3 (for package management through python), PyTorch (for data flow), C#, ML-Agents learning algortihms: PPO, SAC, POCA, and Imitation Learning.
4. *PURPOSE OF CHOOSING THIS PROJECT:* The purpose of this project is to get more experience using and training different machine learning algorithms while also studying whether a distributed system of processes can improve learning in an environment where the learning rate would be slower to account for performance.
5. *REFERENCES/BIBLIOGRAPHY:*

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