

PrimAITE 2.0.0 Learning Benchmark

PrimAITE Dev Team

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1 Introduction

PrimAITE v2.0.0 was benchmarked automatically upon release. Learning rate metrics were captured to be referenced during system-level testing and user acceptance testing (UAT).

The benchmarking process consists of running 10 training session using the same training and lay down config files. Each session trains an agent for 500 episodes, with each episode consisting of 256 steps.

The mean reward per episode from each session is captured. This is then used to calculate a combined average reward per episode from the 10 individual sessions for smoothing. Finally, a 25-widow rolling average of the combined average reward per session is calculated for further smoothing.

2 System Information

2.1 Python

Version	3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)]
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2.2 System

OS	Windows
OS Version	10.0.19045
Machine	AMD64
Processor	Intel64 Family 6 Model 142 Stepping 12, GenuineIntel

2.3 CPU

Physical Cores	4
Total Cores	8
Max Frequency	2304.00Mhz

2.4 Memory

Total	15.68GB
Swap Total	9.00GB

3 Stats

3.1 Benchmark Results

Total Sessions	10
Total Episodes	5000
Total Steps	1280000
Av Session Duration (s)	1005.8384
Av Step Duration (s)	0.0079
Av Duration per 100 Steps per 10 Nodes (s)	0.8731

4 Graphs

4.1 PrimAITE 2.0.0 Learning Benchmark Plot

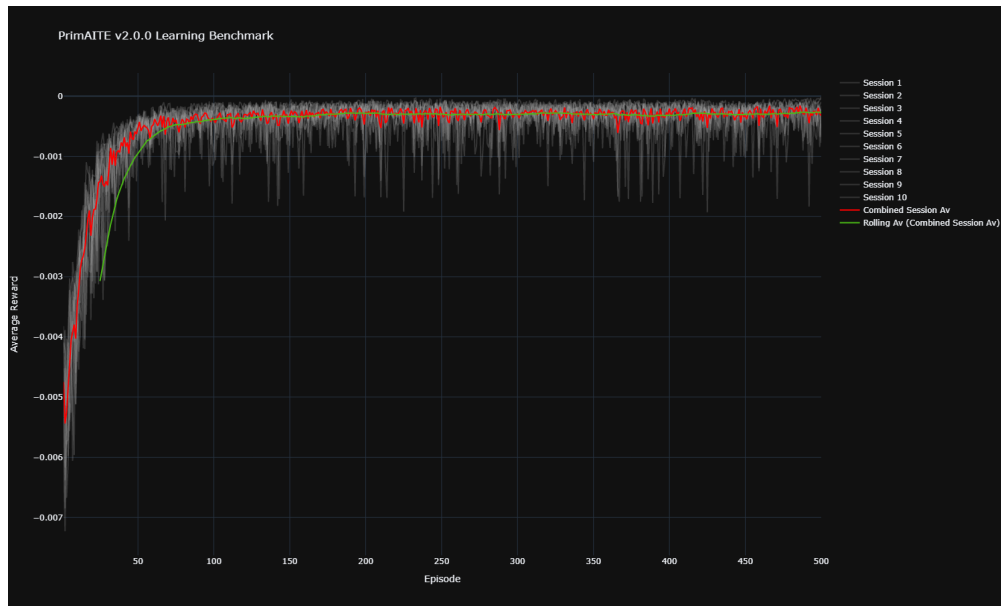


Figure 1: PrimAITE 2.0.0 Learning Benchmark Plot

4.2 PrimAITE All Versions Learning Benchmark Plot

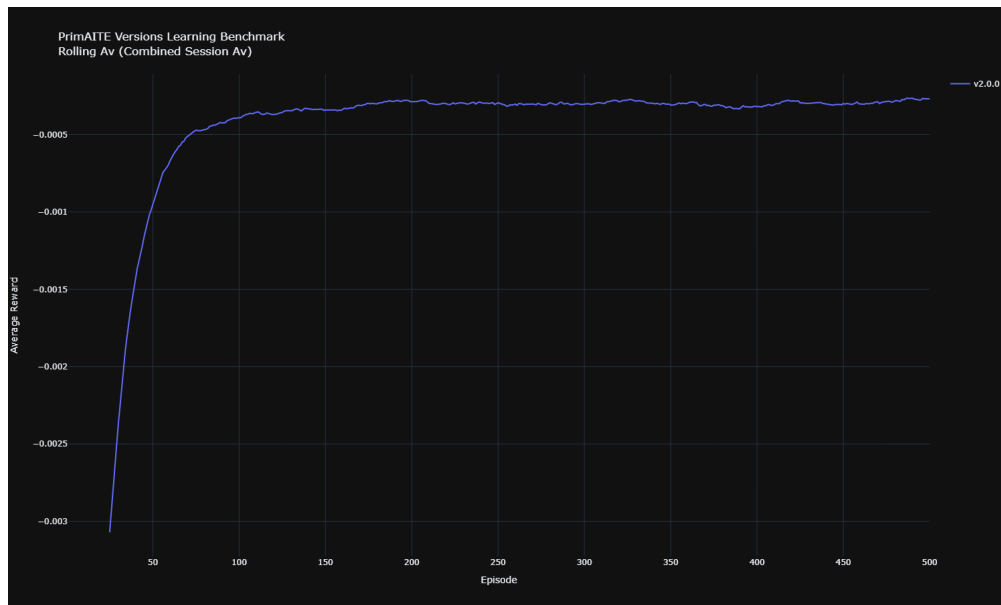


Figure 2: PrimAITE All Versions Learning Benchmark Plot