Deep Eligibility Traces

Introduction

This repository consists of implementations of Eligiblity Traces and corresponding algorithms in the deep learning setting. Algorithms are implemented in `PyTorch` and `Tensorflow 2.0` on a range of problems. Custom toy problems are provided in the `MDPs` folder.

Trace Algorithms

Following algorithms are available in the current version-

PyTorch

Algorithm	Trace	Link	Implementation
TD-lambda	• ☐ Accumulating Trace • ☐ Replacing Trace • ☐ Dutch Trace	Sutton & Barto, Chapter 12	TBA

Tensorflow 2.0

Algorithm	Trace	Link	Implementation
TD-lambda	• ☐ Accumulating Trace • ☐ Replacing Trace • ☐ Dutch Trace	Sutton & Barto, Chapter 12	TBA

Custom Environments

Following is the list of custom toy environments-

Environment Name	Link	Implementation
Cyclic MDP	ESAC	link
One-state MDP	Sutton & Barto	link
One-state Gaussian MDP	Sutton & Barto	link

Usage

Notes on running implementations to be updated soon.

Citation

If you find these implementations helpful then please cite the following-

```
@misc{karush17eligibilitytraces,
  author = {Karush Suri},
  title = {Deep Eligibility Traces},
  year = {2021},
  howpublished = {\url{https://github.com/karush17/Deep-Eligibility-Traces}},
  note = {commit xxxxxxx}
}
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