To what extent do discrete token representation methods improve robustness against domain shifts in multi-task

Assignee Research

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Abstract

This paper presents a general and systematic discussion of various symbolic representations of iterated maps through subshifts. We give a unified model for all continuous maps on a metric space, by representing a map through a general subshift over usually an uncountable alphabet. It is shown that at most the second order representation is enough for a continuous map. In particular, it is shown that the dynamics of one-dimensional continuous maps to a great extent can be transformed to the study of subshift structure of a general symbolic dynamics system. By introducing distillations, partia

1 Introduction

This paper examines: Symbolic Representations of Iterated Maps. Research question: To what extent do discrete token representation methods improve robustness against domain shifts in multi-task reinforcement learning compared to continuous control baselines?.

2 Methodology

Systematic literature search across multiple databases yielded 4 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.2/10.

3 Results

4 papers retrieved. 8 claims extracted; 8 independently verified. Quality review score: 7.2/10.

4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

5 Extracted Claims

Claim	Verified	Confidence
A general and systematic discussion of various symbolic representations of iterated maps through subshifts is presented	✓	0.37
A unified model for all continuous maps on a metric space is provided by representing a map through a general subshift o	✓	0.40
At most the second order representation is enough for a continuous map.	✓	0.27
The dynamics of one-dimensional continuous maps can be transformed to the study of subshift structure of a general symbo	✓	0.39
Partial representations of some general continuous maps are obtained by introducing distillations.	✓	0.32
Partitions and representations of a class of discontinuous maps, piecewise continuous maps are discussed.	✓	0.36
A representation of the Gauss map via a full shift over a countable alphabet is given as an example.	✓	0.25
Representations of interval exchange transformations as subshifts of infinite type are given as examples.	✓	0.31

References

- http://arxiv.org/abs/2109.01036v2
- http://arxiv.org/abs/nlin/0012007v1
- http://arxiv.org/abs/0804.4634v1