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Nikkel Mollenhauer

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Gutachter

Dr. Michael Perscheid

Betreuer

Dr. Rainer Schlosser
Johannes Huegle
Alexander Kastius

Abstract

Zusammenfassung

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Part I

Introduction

1.1 Explaining the background

1.1.1 Agents to be trained for real-world use

Training in an isolated environment

1.1.2 Need to make sure they are "good"

1.2 What we want to offer with our framework

1.2.1 Determining the grade of an agent using monitoring

2.1 Approaches to evaluating RL-agents

2.1.1 ...on the fly (while training)

2.1.2 ...after training has finished



Part II

How and what to monitor

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What makes a good agent?

3.1 Good agent = high profit, few outliers

3.2 Overview of market components

3.2.1 Focus on how agents make profit etc.

3.3 How realistic the market is

3.3.1 Restrictions for evaluation arising from this

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Different approaches

4.1 Tensorboard? (Not built by us)

4.2 Macro

4.2.1 Agent-monitoring

4.2.2 Live-monitoring

4.3 Micro

4.3.1 Exampleprinter

4.4 Static

4.4.1 Policyanalyzer

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Our workflow

5.1 Training continuously saves models

5.1.1 Automatic monitoring at certain intervals

5.1.2 -> Can we discard agents prematurely due to results from this?

5.1.3 First analysis if available with finished training

5.2 Manual invocation of monitoring functionalities

5.2.1 When is this necessary/a good idea? Why?

Part III

Consequences

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Interpreting the results

6.1 Graphs and diagrams are available...

6.1.1 ...comparing with other agents/models

6.1.2 ...which hyperparameters influence the results in what ways?

6.1.3 ...can we augment e.g. Grid-Search with our analysis?

6.1.4 -> Would need to make results "machine-readable" again

Part IV

"Outro"

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Conclusions & Outlook

Bibliography

Declaration of Authorship

I hereby declare that this thesis is my own unaided work. All direct or indirect sources used are acknowledged as references.

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Nikkel Mollenhauer