



SAARLAND UNIVERSITY
DEPARTMENT OF COMPUTATIONAL LINGUISTICS

SOFTWARE PROJECT: **Neural Networks**

Tetris AI

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Abstract

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Contents

1	Introduction	1
1.1	Tetris Introduction	1
1.2	Reinforcement learning for Tetris	1
1.3	Reinforcement learning	1
1.4	Computer Vision	1
1.5	Computer Vision for Tetris	1
2	Implementing RL with CV	2
2.1	2
3	DQN	3
3.1	Explain approach	3
3.2	Implementation process	3
3.3	Debugging	3
3.4	Finetuning	3
3.5	Results	3
3.6	Further Directions	3
4	PPO	4
4.1	Explain approach	4
4.2	Implementation process	4
4.3	Debugging	4
4.4	Finetuning	4

1 Introduction

1.1 Tetris Introduction

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1.2 Reinforcement learning for Tetris

Introduce RL in terms of Tetris.

1.3 Reinforcement learning

1.4 Computer Vision

Describe CV.

1.5 Computer Vision for Tetris

Describe why to use CV for Tetris. How to combine RL and CV.

2 Implementing RL with CV

2.1



Figure 1. The saarland uni logo.

3 DQN

3.1 Explain approach

3.2 Implementation process

3.3 Debugging

3.4 Finetuning

3.5 Results

3.6 Further Directions

4 PPO

4.1 Explain approach

4.2 Implementation process

4.3 Debugging

4.4 Finetuning

Within a text, you can say that Lin and Pantel (2001) found out something. Or you can just state the thing, and then put the author in parentheses (see Szpektor et al., 2004).

References

- Lin, D. and Pantel, P. (2001). DIRT - Discovery of Inference Rules from Text. In *Proceedings of the ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD-01)*, pages 323–328, San Francisco, CA.
- Szpektor, I., Tanev, H., Dagan, I., and Coppola, B. (2004). Scaling web-based acquisition of entailment relations. In *Conference on Empirical Methods in Natural Language Processing (EMNLP-04)*, pages 41–48, Barcelona, Spain.