Mastering Divserse Computer Games using Generation Based Learning

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September xx, 2018

Vienna University of Technology

Faculty of Informatics

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Bachelor Thesis

Mastering Divserse Computer Games using Generation Based Learning

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September xx, 2018

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Abstract

Abstract (different language)

Acknowledgement

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1 Introduction

> *Some people worry that artificial intelligence will make us feel inferior, but then, anybody in his right mind should have an inferiority complex every time he looks at a flower.*
>
> **— Alan Kay**
> (Computer Scientist)

https://sokogskriv.no/en/writing/structure/structuring-a-thesis/ http://www.charleslipson.com/How-to-write-a-thesis.htm

1.1 Motivation and Problem Statement

[5, 6, 8, 7, 1, 2, 3]

1.2 Results

1.2.1 Some References

[4, 9]

1.3 Thesis Structure

Chapter 2

Chapter ??

Chapter ??

Chapter ??

Chapter 5

2 Related Work

2.1 Genetics Algorithms, genetic programs

https://www.quora.com/Whats-the-difference-between-Genetic-Algorithms-and-Genetic-Programming http://outlace.com/miniga.html https://stackoverflow.com/questions/1402370/when-should-i-use-genetic-algorithms-as-opposed-to-neural-networks

2.2 Artificial Neuronal Networks

https://stackoverflow.com/questions/1402370/when-should-i-use-genetic-algorithms-as-opposed-to-neural-networks

2.3 NEAT

2.4 Frameworks

3 Generation Learning in Computer Games

3.1 MarI/O

explanation of environment and expectations

Differences between runs

Graph of population (10, 50, 250) averaged on generations

special behaviour

3.2 Machine Learning Flappy Bird

explanation of environment and expectations

Differences between runs (lucky runs with 4th champion generation)

special behaviour!!!

3.3 SnakeFusion

explanation of environment and expectations

special behaviour

3.4 Conclusion

4 Comparison and Meta-Analysis

4.1 Concepts Section 1

4.2 Conclusion

5 Conclusion

> *By far, the greatest danger of Artificial Intelligence is that people conclude too early that they understand it.*
>
> **— Eliezer S. Yudkowsky**
> (Artificial Intelligence Researcher)

https://sokogskriv.no/en/writing/structure/structuring-a-thesis/ http://www.charleslipson.com/How-to-write-a-thesis.htm

5.1 Stuff

5.2 Future Work

Example Appendix

A

A.1 Appendix Section 1

Alpha	Beta	Gamma
0	1	2
3	4	5

Tab. A.1.: This is a caption text.

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Declaration

You can put your declaration here, to declare that you have completed your work solely and only with the help of the references you mentioned.

Vienna, September xx, 2018

Manuel Esberger