Chess Alpha

# **ASK THESIS WORD LIMIT**

# 0. Prelude

Abstract.

Acknowledgements.

Table of Contents.

Index should be here.

# 1. Introduction (2,5 pages)

Motivation here rather than in the Abstract.

Context.

Things we will consider/use.

Objectives. (No details, just saying what we want to do or find out from this project)

No - Explaining the game and rules.

No - Variations and difficulties.

No - Elements taken into account.

Planning/Gantt Chart

# 1.5 Background

Everything that’s not coming from me. Basically, rules of chess, algorithms used… Things that come from literature. Everything that needs to be understood to understand the project.

Also design pattern background, game API, testing.

Should be objective, NOT talking about my choices.

# 2. Software Requirements Specification

Both functional and non-functional requirements as well as list of expected features.

What should the game include (interface, what the program should do…)

Maybe it should be point 3.

# 3. Feasibility and choices taken

Model choices, Software choices, study of the time and resources needed, etc. Patterns used. Testing with Nim.

Also, folder structure and GitHub.

# 4. Design

Different diagrams and technical explanations.

# 5. Components and implementation

Different screens and features involved.

# 6. Testing

Tests performed etc.

# 7. Project Evaluation

Strengths and flaws of project. What could have been done better etc.

# 8. Conclusions

Thoughts about the project.

Could add a future work section.

# 9. Bibliography

AI:

<https://medium.freecodecamp.org/simple-chess-ai-step-by-step-1d55a9266977>

<https://en.wikipedia.org/wiki/Distributed_computing>

<https://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-game-clones-to-code/>

<http://www.aihorizon.com/essays/chessai/intro.htm>

<https://www.chess.com/blog/zaifrun/creating-a-chess-engine-from-scratch-part-1>

<https://stackoverflow.com/questions/494721/what-are-some-good-resources-for-writing-a-chess-engine>

<https://en.wikipedia.org/wiki/Deep_Blue_(chess_computer)>

<https://www.research.ibm.com/deepblue/meet/html/d.3.3a.shtml>

<https://www.wired.com/2017/05/what-deep-blue-tells-us-about-ai-in-2017/>

Neural Networks:

<https://www.technologyreview.com/s/541276/deep-learning-machine-teaches-itself-chess-in-72-hours-plays-at-international-master/>

<https://stackoverflow.com/questions/753954/how-to-program-a-neural-network-for-chess>

<https://chessprogramming.wikispaces.com/Neural+Networks>

<https://erikbern.com/2014/11/29/deep-learning-for-chess.html>

<https://www.quora.com/Can-a-chess-engine-use-neural-network>

<https://arxiv.org/abs/1509.01549>

Rules:

<https://en.wikipedia.org/wiki/Rules_of_chess>

**PROBLEMS:**

* I didn’t want every class from the old project, it had many games, but most of them would break the whole project since they depended on each other.
* Problems between Piece and ChessPiece.
* Problems with turn, since on the old game it was determined by the colour (every piece was treated as the same, as long as the colour matched, which is not the case in chess)