Comenius University in Bratislava
Faculty of Mathematics, Physics and Informatics

Artifictial neural network as an opponent in Quoridor

Bachelor Thesis

2016 Michal Hoľa

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Declaration of Authorship

I do solemnly declare that I have written the presented thesis by myself under careful supervision of my thesis advisor without undue help from a second person other than that specified.

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Abstract

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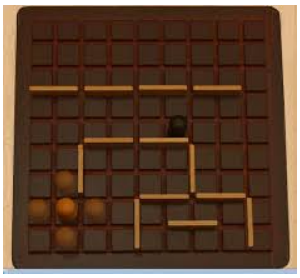

0.1 Introduction

Quoridor is abstract board strategy game... This thesis covers only 2 player version of this game.

0.1.1 Rules

Each player starts with a single pawn and 10 fences (or walls). Board is square of 9x9 (81) squares. In the beginning, pawns are placed on the opposite sides of the board in the center spaces of the edges. The goal is to get pawn to opposite side of the board first. Walls are wide two spaces and can be placed in the groove between 9x9 spaces, so there are 8x8 vertical and 8x8 horizontal possibilities to place walls. When player is on turn, he must place wall, if he has left some, or move his pawn to adjacent space not blocked by a wall. Diagonal are not considered adjacent. If opponent's pawn stands on adjacent space, current player can move (jump) with his pawn to all the places where the opponent pawn can move.