Abstract

Since decades developing programs for board games has been part of AI research and this field has attracted computer developers and researchers world-wide. Board games have a novel feature of simple, precise, easily formalized rules which makes them perfect launch vehicle to make computer game playing in a suitable development environment. The paper focuses on the two players, full knowledge, alternate move, deterministic, zero-sum game of Checkers. Genetic algorithmic approach is been applied in evolving computer player for the game of Checkers. The notion of this paper is to incorporate systematic game playing approach by analyzing game of checkers. Expert game players reveal three major playing
Building Fitness Value Improvement using Evolutionary Process through Genetic Machine Learning Approach

strategies to make game winning moves. The game moves are divided into three stages
opening game, middle stage and endgame. An evolutionary program plays game of checkers
with an intention to build resilient middle stage and a set of predefined rules are incorporated to
make calculated moves in an endgame.

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Index Terms

Computer Science
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Key words

learning Board Game
Genetic Algorithm
Checkers

Open four
split three
game
Game Configuration

Fitness Function