



Introducing a Round Robin Tournament into Evolutionary Individual and Social Learning Checkers

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Abstract—In recent years, much research attention has been paid to evolving self-learning game players. Fogel’s Blondie24 is a demonstration of a real success in this field; inspiring many other scientists. In this paper, artificial neural networks are used as function evaluators in order to evolve game playing strategies for the game of checkers. We introduce a league structure into the learning phase of an individual and learning system based on the Blondie24 architecture. We show that this helps eliminate some of the randomness in the evolution. The best player we evolve is tested against an implementation of an evolutionary checkers program, and also against a player, which utilises the proposed round robin tournament and finally against an individual and social learning checkers program. The results are promising, suggesting many other research directions.

feedforward artificial neural networks to evaluate board positions. One of the core features in the design of Blondie24 was to have the program learn, through self play. This is an alternative approach to using human knowledge as an input to the system and utilising a human designed evaluation function to judge the quality of a given board position. The architecture of Blondie24 is shown in Figure1 [6].

I. INTRODUCTION

Designing automated computer game playing programs has



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