Self-Evaluation of RTS Troop's Performance

Abstract

This paper demonstrates the research results obtained from a comparison of Evolutionary Programming (EP) and hybrid Differential Evolution (DE) and Feed Forward Neural Network (FFNN) algorithms in the Real Time Strategy (RTS) computer game, namely Warcraft III. The main aims of this research are to: test the feasibility of implementing EP and hybrid DE into RTS game, compare the performances of EP and hybrid DE, and generate gaming RTS controllers autonomously, an issue primarily of reinforcement/troops balancing. This micromanagement issue has been overlooked since last decade. Experimental results demonstrate success with all aims: both EP and hybrid DE could be implemented into the Warcraft III platform, and both algorithms used able to generate optimal solutions.