

ABSTRACT

Evolution is process of optimization and learning to adapt to changes in their dynamic environment so is to survive. By installing the implicit learning of Evolutionary Algorithm, we can create computer program that learn, and evolve, in environment containing of uncertain information. We will use Evolutionary Algorithm to learn to play game, in particular the game of Go.

The game of Go is an ideal problem for exploring machine learning. It has simple rules yet requires complex strategies to play well, a more and more complex as the board size is increased. Despite much effort, existing Go programs, which have largely uses AI techniques, they still have failed to achieve a standard much above an average human amateur. Computer Go, often do a same mistake over and over again. The board size of game go making it a huge search space, is cited to be the cause of this problem.

Evolutionary approaches are said to be able to acquire approximate solutions from a large search space without searching the whole search space. Because of the individual are randomly selected, hopefully the computer can acquire solution that give movement which is not static. But, of course, the computer is still has to be 'smart'.

Keywords : evolutionary algorithm, genetic algorithm, game ai, game go