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Abstract
In this thesis, the control strategy design of robot soccer game is mainly conferred. The dynamical role assignment mechanism is achieved by examining the decision tree method in this paper. According to the position of ball, the decision tree resolves which role each robot should play. In the strategies, we propose the weighting methods and fuzzy weighting methods.
The fuzzy weighting method can improve the subjectivity of the weighting methods efficiently but the expert system of them needs a long time to set up. In this thesis, by utilizing genetic algorithms we make every strategy to be a chromosome and let them evolve generationally till we get the suitable expert system for the robot. According to the experimental results, the score efficiency obtained by using the genetic algorithms is better than with the weighting method by 50%, and is better than that with the fuzzy weighting method by 15%.
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