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论文

一种竞争环境下基于自适应遗传算法的多边多议题协商

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摘要
为了提高竞争环境下基于智能体电子商务多边多议题协商当中agent协商的效率，该文提出了一种竞争环境下agent的协商模型，并且将自适应遗传算法AGA应用于该模型当中，来提高模型中agent协商的效率。在实验中，分别对于两种遗传算法即：标准遗传算法SGA和自适应遗传算法AGA各进行了1000次的实验。结果表明同样达到协商满意解的时候，SGA平均需要183次协商，而AGA平均需要152次协商。这个结果说明，在求解竞争环境下多边多议题协商问题的时候，自适应遗传算法AGA可以使得协商当中的agent高效达到协商的满意解。

关键词 电子商务；智能体；多边多议题协商；自适应遗传算法

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An Adaptive Genetic Algorithm and Its Application to Multi-literal Multi-issue Competitive E-commerce

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Abstract
To make the agents negotiate more efficiently in multi-lateral multi-issue negotiation in multi-agent based competitive e-commerce, an agent negotiation model in competitive environment is presented, and the Adaptive Genetic Algorithm(AGA) is applied to the model to enhance the negotiation efficiency. In the experiments, two kinds of genetic algorithms are used to compare with, they are Standard Genetic Algorithm(SGA) and AGA. After 1000 times of experiments for the two kinds of agents to gain the satisfying result, SGA averagely needs negotiation of 183 runs, while the AGA averagely needs only 152 runs. The experiment results show that the AGA can gain the satisfying negotiation result more efficiently than SGA in competitive multi-lateral multi-issue negotiation.

Key words E-commerce Agent Multi-lateral multi-issue negotiation Adaptive genetic algorithm

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