

一类面向多目标决策的分层情感认知模型

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A kind of layered affective cognition model for multi-objective decision-making

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摘要

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摘要

决策者的情感认知对于复杂多目标决策具有关键的作用, 为了使计算机掌握决策者的决策情感认知规律, 提升计算机辅助多目标决策的能力, 提出一种融合了性格特征、心境状态和情感状态的多层情感认知模型. 描述决策者在处理复杂决策问题时的情感状态量化关系, 运用分层情感认知模型构建集感性和理性于一身的虚拟人, 代替决策者完成对多目标优化问题的交互决策求解. 实例分析验证了所提出模型的有效性.

关键词: 多目标决策, 情感计算, 认知

Abstract:

It is acknowledged that the affective cognition of decision-makers plays an important role during the course of multi-objective decision-making. Aiming to enhance the decision-making ability of computers by enabling them with human's affective cognition, layered affective model is proposed, which merges personality, mood and emotional states and is able to describe the quantified affective cognition of decision-makers in solving complex decision-making problems. This layered affective cognitive model can be applied to the creation of virtual human decision-makers incorporated with human's perceptual and rational characteristics. Instead of human decision-makers, the virtual ones participate in solving multi-objective optimization problems by means of interactive decision-making approaches. Numerical examples are employed to demonstrate the effectiveness of the proposed model.

Key words: multiple-objective decision-making affective computing cognition

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