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Simulation of the vehicle test based on the design of elements of artificial intelligence

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Abstract

The paper examines the structure of the expert system for analysis and optimization design of the vehicle. The structure of the expert system consist a user interface, mathematical model, the inference module and a knowledge base. The user interface is designed for both input conditions and output characteristics and to evaluate the performance of the system, which allows further optimize the system. Inference module is built on the principle of multi-agent systems (MAS). It includes, the coordinator agent and agents specializing in vehicle systems. The source of algorithms for agents inference module is rule base, the base use case, the database and the neural networks that are part of the knowledge base. A mathematical model, which is part of the expert system is used for self-performance system. © IDOSI Publications, 2013.

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Keywords

Expert system, Knowledge base, Multi-agent system, Simulation model of vehicle