

**Mathematical and Computer Modelling****Fuzzy knowledge searching on the basis of the traditional and-or graph search algorithm**

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Based on the fuzzy propositional logic FLCOM and fuzzy set FSCOM, we research the formal denotation, inference and computation of fuzzy knowledge. We extend the fuzzy and-or graph, turn the propositional formulas as state nodes, express the logical rules as the search space, construct and-or graph of the fuzzy propositional formula. We modify heuristic function on the basis of the traditional and-or graph search algorithm, and give out a method to process negation information in the process of reasoning, transforming the fuzzy knowledge reasoning into the state space searching problem, and using the state space searching to solve the problem of fuzzy knowledge reasoning.

*Keywords: fuzzy propositional logic FLCOM, fuzzy set FSCOM, fuzzy propositional formula, negation information, state space searching*

**Parallel computation of matrix norm based on MapReduce**

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A kind of parallel programming method based on MapReduce model is proposed, in allusion to data characteristic of having specific data partitioning requirement, parallel computation of matrix norm is implemented on the platform of high-performance MapReduce. Comparing with the traditional parallel programming model, MapReduce model parallel program can satisfy to requirement of high performance numerical calculations well, its programming for simplicity and readability can improve parallel programming efficiency in effect.

*Keywords: MapReduce, Numerical computation, Matrix norm, Parallel computation, Data partitioning, High-performance*