

数据库、信号与信息处理

多维优化案例推理检索算法研究

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收稿日期 2007-10-29 修回日期 2008-1-11 网络版发布日期 2008-8-28 接受日期

摘要 案例检索是案例推理系统的中心环节, 检索质量关系着整个系统的质量。利用遗传算法GA和层次分析法AHP相结合, 从案例库, 属性的约简, 权值确定三方面对案例检索进行优化。利用遗传算法在搜索优化上的优势, 使用两维的编码结合权值从而形成三维优化, 并利用经验和权值中间表进行权值学习。从而提高检索命中率。并将这种模型运用到基于旅游的多策略数据挖掘系统进行实验, 结果表明在案例检索的命中率上有明显提高。

关键词 [案例检索模型](#) [遗传算法 \(GA\)](#) [层次分析法 \(AHP\)](#)

分类号

Multi-dimensional reduction technique research on case retrieval model in CBR

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Abstract

Case retrieval model directly impacts Case-based Reasoning. This text combines Genetic Algorithm (GA) and the Analytic Hierarchy Process (AHP) to optimize parameters of Case-Based Reasoning (CBR) systems. This research mainly considers three research issues regarding the effective case indexing and retrieval feature selection, feature weighting and instance selection. In this study, the hybrid feature and instance selection process using genetic algorithms. At the same time makes use of experience and feature weighting log file to lean amending feature weighting. Apply the proposed model to a multi-strategy data-mining system case based on travel industry. Experimental results show that the proposed technique may improve the efficiency of case indexing and outperform various optimized models of the typical CBR system.

Key words [case retrieval model](#) [Genetic Algorithm \(GA\)](#) [Analytic Hierarchy Process \(AHP\)](#)

DOI: 10.3778/j.issn.1002-8331.2008.25.048

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