

Ontology-Based Backpropagation Neural Network Classification and Reasoning Strategy for NoSQL and SQL Databases

Authors : Hao-Hsiang Ku, Ching-Ho Chi

Abstract : Big data applications have become an imperative for many fields. Many researchers have been devoted into increasing correct rates and reducing time complexities. Hence, the study designs and proposes an Ontology-based backpropagation neural network classification and reasoning strategy for NoSQL big data applications, which is called ON4NoSQL. ON4NoSQL is responsible for enhancing the performances of classifications in NoSQL and SQL databases to build up mass behavior models. Mass behavior models are made by MapReduce techniques and Hadoop distributed file system based on Hadoop service platform. The reference engine of ON4NoSQL is the ontology-based backpropagation neural network classification and reasoning strategy. Simulation results indicate that ON4NoSQL can efficiently achieve to construct a high performance environment for data storing, searching, and retrieving.

Keywords : Hadoop, NoSQL, ontology, back propagation neural network, high distributed file system

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