Fuzzy Knowledge Management through Knowledge Engineering and Fuzzy Logic

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Abstract

Knowledge management (KM) facilitates the capture, storage, and dissemination of knowledge using information technology. In this paper, we propose a FKM (Fuzzy Knowledge Management) approach to managing fuzzy knowledge through knowledge engineering and fuzzy logic. First, fuzziness is introduced into CGs (Conceptual Graphs) for constructing fuzzy knowledge models. Fuzzy knowledge models are used to organize and express various types of fuzzy knowledge through fuzzy CGs. Fuzzy inference rules in fuzzy CGs are identified to offer the deduction capability for reasoning about fuzzy knowledge. Second, fuzzy knowledge models can be classified and stored in a hierarchical ontology system. Ontologies serve as the common understanding of fuzzy knowledge and facilitate the finding of specific fuzzy knowledge relevant to a given domain.