

Development of Fuzzy Logic Control Ontology for E-Learning

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Abstract : Nowadays, ontology is common in many areas like artificial intelligence, bioinformatics, e-commerce, education and many more. Ontology is one of the focus areas in the field of Information Retrieval. The purpose of an ontology is to describe a conceptual representation of concepts and their relationships within a particular domain. In other words, ontology provides a common vocabulary for anyone who needs to share information in the domain. There are several ontology domains in various fields including engineering and non-engineering knowledge. However, there are only a few available ontology for engineering knowledge. Fuzzy logic as engineering knowledge is still not available as ontology domain. In general, fuzzy logic requires step-by-step guidelines and instructions of lab experiments. In this study, we presented domain ontology for Fuzzy Logic Control (FLC) knowledge. We give Table of Content (ToC) with middle strategy based on the Uschold and King method to develop FLC ontology. The proposed framework is developed using Protégé as the ontology tool. The Protégé's ontology reasoner, known as the Pellet reasoner is then used to validate the presented framework. The presented framework offers better performance based on consistency and classification parameter index. In general, this ontology can provide a platform to anyone who needs to understand FLC knowledge.

Keywords : engineering knowledge, fuzzy logic control ontology, ontology development, table of content

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