

# THESIS INFORMATION

Title: **FUZZY ONTOLOGY INTEGRATION BASED ON CONSENSUS THEORY**

Major: Computer Science

Major Code: 62.48.01.01

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## 1. ABSTRACT

Ontology play a vital role in the process of knowledge exchange among distributed information system in the field of research and different applications: integrated facility data, e-commerce, semantic web services and social networking. Currently the system of knowledge based on ontology, concepts, relationships and instances of the object is expressed correctly, not completely fit in the real world often contain vague information , uncertain and incomplete. The study of fuzzy ontology integration is currently implemented by the method of matching / alignment or mapping on fuzzy ontology is defined in fuzzy logic or illogical described by expanding the composition of conventional ontology. To solve the problem of fuzzy ontology integration must define a fuzzy ontology models and algorithms on model integrating knowledge built. But fuzzy ontology integration is a complex problem because of the uncertainty and incompleteness of information, intellectual contradiction and its varied structure.

With the challenges above, aim of the thesis research is to propose a fuzzy ontology modeling and fuzzy ontology integration method based on the theory of consensus. The results of research and experiments are published in journals and international conferences are indexed by by ISI (SCI-E, CP), EI, Scopus, DBLP, ACM Digital Library etc.

## 2. THE MAIN CONTRIBUTIONS OF THE DISSERTATION ARE AS FOLLOWS:

1. Building fuzzy ontology knowledge model.
2. Building fuzzy ontology matching algorithms.
3. Building conflict management algorithms in fuzzy ontology integration at three levels of concepts, relationships and entity based on consensus theory.
4. Implementing the test program and evaluate the algorithms integrated ontology ontology on fuzzy fuzzy on weather data and ontology of OAEL.

## 3. OPEN PROBLEMS

- Development description language modeled fuzzy fuzzy ontology was proposed to install the integrated application of knowledge of fuzzy ontology.
- Construction of fuzzy ontology knowledge base on different areas to cater to the testing and application of fuzzy ontology integration algorithm.
- Construction tools uzzy ontology integratio used fuzzy membership functions suitable for applications related.

- Development of integrated application systems fuzzy ontology knowledge on the research results of the thesis.
- Application Development of integrated algorithms fuzzy ontology knowledge on distributed knowledge systems: MultiAgent Systems, Social Networks, ... on the basis of consensus theory.

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