

SENG 42273

Semantic web and Ontological Engineering

Lecture 7

Ontology

An ontology

Defines a common vocabulary to share information in a domain. An ontology includes machine-interpretable definitions of basic concepts in the domain and relations among them.

Ontology Engineering

Types of Ontologies

- Representation Ontologies
- General or Upper-level Ontologies
- Domain Ontologies
- Application Ontologies

Ontology Engineering

Why Ontologies?

- Knowledge management
- Knowledge sharing
- Knowledge integration
- Knowledge analysis

Ontology Engineering

Ontology Engineering

What is Ontology Engineering? (What is Software Engineering?): is a field which studies the methods and methodologies for building Ontologies

Ontology Engineering

Discussion points

- Building and Constricting Ontologies
- Reusing Ontologies
- Ontology mapping

Ontology Engineering

Noy and McGuinness method, “Ontology Development 101: A Guide to Creating Your First Ontology.”

Main stages in the ontology development process

- Determine the domain and scope of the ontology
- Consider reusing existing ontologies
- Enumerate important terms in the ontology
- Define the classes and the class hierarchy(taxonomy)
- Define the properties of classes—slots
- Define the facets of the slots
- Define instances
- Check for anomalies

End