Overview

The purpose of this course is to expose graduate students in linguistics to different aspects of the pioneering 'OntoLex' research in recent years, including foundations, methods and practical issues of use and implementation. This course will introduce the linguistic graduate student to the (formal) distinctions among basic ontological categories, such as objects, events, qualities, and their interplay with the lexicon. In the lab sessions, these categories will be characterized in an axiomatic way, which has been designed to provide some formal ontological ground to natural language processing applications. Finally, we shall also show possible ways to use the lexically-driven ontologies as a basis to facilitate deeper understanding of both human cognition and natural language semantics.

The course unit comprises of three of elements:

1. **Lecture** (based on the contents of weekly reading assignment).

2. **Seminar** (Student-led research presentations and discussions based on the contents of weekly reading assignment).

3. **TA-led Lab**

   - All students must read the paper(s) for each lecture/seminar in advance of the class. Each student should present at least one paper.

   - In addition to the presentation, required work in this class include, weekly in-class exercises and homeworks, and a term paper. Grading policy: class participation, homework and seminar presentation (60%), term paper (40%).

   - Attention is likely to focus on Chinese Wordnet, Chinese Character Ontology as well as Austronesian Ontologies, students are encouraged to work on the indicated research topics as their term papers/projects.

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## Syllabus

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<th>lab</th>
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<td>1 (19/02)</td>
<td>Orientation</td>
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<td>2 (26/02)</td>
<td>Ontologies and Lexical Resources (1)</td>
<td>wiki-family</td>
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<td>3 (05/03)</td>
<td>Ontologies and Lexical Resources (2)</td>
<td>(C)WN and Protégé</td>
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<td>[Erasmus-Multi Selection Meeting, March 5-7]</td>
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<td>4 (12/03)</td>
<td>Ontologies and Lexical Resources (3)</td>
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<td>5 (19/03)</td>
<td>Lexical Knowledge Representation (1) : Nouns</td>
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<td>6 (26/03)</td>
<td>Lexical Knowledge Representation (2) : Adjectives and Properties</td>
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<td>7 (02/04)</td>
<td>[Canceled] (台大溫書假)</td>
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<td>8 (09/04)</td>
<td>Lexical Knowledge Representation (3) : Verbs</td>
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<td>9 (16/04)</td>
<td>Interfacing Lexicon and Ontology (Type System, Qualia Structure and Formal Ontologies)</td>
<td>YAGO, UBY</td>
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<td>10 (23/04)</td>
<td>OntoClean Methodology</td>
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<td>11 (30/04)</td>
<td>Ontology Learning (1): Sense and Semantic Class</td>
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<td>Ontology Learning (2): Relations</td>
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<td>13 (14/05)</td>
<td>Ontology Learning (3): Social Network</td>
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<td>14 (21/05)</td>
<td>Cross-cultural Perspectives on Ontologies</td>
<td>HanziNet-IE_root</td>
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<td>15 (28/05)</td>
<td>Ontology Evaluation Practice [LREC, May 26-31, Iceland]</td>
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<td>16 (04/06)</td>
<td>Domain Ontologies and Ontology-based Linguistics</td>
<td>Emotion ontology</td>
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<td>17 (11/06)</td>
<td>Final Presentation [CLSW, June 9-12, Macau]</td>
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<td>18 (18/06)</td>
<td>Term Paper due</td>
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Readings

W-1 Orientation


W-2 Introduction to OntoLex (1) / Wiki-


W-3 Introduction to OntoLex (2) / Protégé and WN


W-4 Introduction to OntoLex (3) / SUMO-WordNet-FrameNet


W-5 LKR (1): Nouns


W-6 LKR (2): Adjectives and properties


W-7 National Holiday

• L. Prevot, et al. (2010). *Interfacing ontologies and lexical resources.*


W-8 LKR (3): Verbs / VerbNet


W-9 Semantic Type System and Qualia Structure & Formal Ontologies / YAGO, UBY


W-10 OntoClean / OntoMerge Methodology / CWN-DOLCE-SUMO


W-11 Ontology Learning (1): Sense and Semantic Class Discovery

• Paul Buitelaar et al. (2003). *Ontology learning from the text: An overview.*
Ontology and the Lexicon

Shu-Kai Hsieh
shukaihsieh@ntu.edu.tw

- Yamada, I. et al. (2007). *Automatic Acquisition of Qualia Structure from Corpus Data.*

W-12 Ontology Learning (2): Relations


W-13 Ontology Learning (3): OntoLex in Social Networking

- (Discussion of proposals for the term papers)

W-14 Cross-cultural ontologies


W-15 Cross-cultural ontologies (2) / Evaluation practice


W-16 Domain ontologies and Ontology-based Linguistics / Emotion


References


