The Hebrew University of Jerusalem

Syllabus

Meaning and Computation - 6111

Last update 30-01-2017

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: cognitive science

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Omri Abend

Coordinator Email: oabend@cs.huji.ac.il

Coordinator Office Hours:

Teaching Staff:

Dr. Omri Abend

Course/Module description:
  Verbal behavior is often viewed as the hallmark of intelligence ("the Turing test"). Within the field of AI, much effort has been placed on developing computational procedures that mimic human understanding of natural language. We will discuss recent advances in Computational Linguistics and Machine Learning that open new frontiers in machine understanding of natural language,
assisted by the availability of extensive textual resources and computing power. The course will take a broad perspective, surveying approaches to computational meaning representation and machine learning algorithms for learning meaning representations from text. We will also discuss how these approaches translate into advances in language technology, such as machine translation (e.g., Google Translate) and question answering (e.g., IBM Watson who won the quiz show Jeopardy!), and links to cognitive modeling, such as models of child language acquisition.

Course/Module aims:

Learning outcomes - On successful completion of this module, students should be able to:
  Understand the basics of
contemporary work in
computational semantics,
situating it within the context of the major goals of the field.

Attendance requirements(%):
  80

Teaching arrangement and method of instruction:

Course/Module Content:
  The course will discuss contemporary approaches to representation and learning in the following sub-fields of computational semantics:
1. Lexical semantics (the meaning of words)
2. Sentence semantics
3. Semantics in a cross-linguistic perspective
4. Applications of computational
semantics (e.g., question

answering, machine translation)
5. Computational modeling of child language acquisition

Required Reading:
 TBA

 Additional Reading Material:

 Course/Module evaluation:
 End of year written/oral examination 0 %
 Presentation 0 %
 Participation in Tutorials 0 %
 Project work 0 %
 Assignments 20 %
 Reports 0 %
 Research project 80 %
 Quizzes 0 %
 Other 0 %

Additional information: