Computational Linguistics

CS579, Fall Semester, 2019

School of Computing, KAIST

Course Syllabus

Course Objective

• Computational linguistics is the scientific study of language from a computational perspective, and thus an interdisciplinary field, involving linguistics, computer science, mathematics, logic, cognitive science, and cognitive psychology.

• This course studies theoretical aspects of computational linguistics, in particular in its subfield known as computational semantics, which is concerned with deriving suitable meaning representations from natural language expressions and reasoning with such meaning representations.

• The course will use the primary reference for the essential materials in computational semantics, but also review more recent and state-of-the-art improvements as reported in the literature.

Administrative Details

Instructor

• Prof. Jong C. Park • park@nlp.kaist.ac.kr • Office: Room 2406, E3-1

Teaching Assistant(s)

• Wonsuk Yang, Jung-Ho Kim • cs579@nlp.kaist.ac.kr

Time, Place, and Homepage

• Tue & Thu, 14:30~15:50 • Room 2112, E3-1 • http://nlpcl.kaist.ac.kr/~cs579_2019

Course Materials

• Primary: Blackburn and Bos, Representation and Inference for Natural Language: A First Course in Computational Semantics, CSLI Studies in Computational Linguistics, CSLI Publications, 2005.

• Secondary: Blackburn, Bos, and Striegnitz, Learn Prolog Now!, College Publications, King's College, 2006. http://www.learnprolognow.org

Evaluation Criteria

• Midterm Exam: 25%
• Final Exam: 25%
• Attendance: 20%
• Homework/Project/Class Participation: 30%

Lecture Schedule

• Week 1: Introduction
• Week 2: Prolog
• Week 3: Prolog
• Week 4: First Order Logic
• Week 5: First Order Logic; Lambda Calculus
• Week 6: Lambda Calculus
• Week 7: Midterm Exam (10/24, 13:00~15:45)
• Week 8: Underspecified Representations
• Week 9: Underspecified Representations
• Week 10: Propositional Inference
• Week 11: Propositional Inference
• Week 12: First Order Inference
• Week 13: First Order Inference
• Week 14: Review; Putting It All Together
• Week 15: Final Exam (12/19, 13:00~15:45)