Words and Automata Research Group

Seminar Announcement

Machine Readable Entailments

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Monday February 21st, 2022, 12:00 a.m.
Room 7, Via Archirafi 34, 90123 Palermo

NLPytaly is a research project in Computational Linguistics (Natural Language Understanding, Recognizing Textual Entailment) started in 2019. The software is mainly designed to obtain machine-readable meaning and entailments from Italian sentences. The tool functions with a limited number of supported constructions (seven types, so far), and is currently more effective when dealing with simple, monopredicative sentences (e.g. Max spera 'Max hopes'), but also with a number of multipredicative sentences (e.g. the so-called light verb constructions (Max nutre una speranza 'Max has/harbors a hope'). With the above sentences, for example, the tool will return the mutual entailment relationship which holds between them (determiners may affect the type of entailment).
The tool functions by means of a rule-based system implemented with Python 3.10. Basic operations are performed with TreeTagger, a statistical parser which only provides: a) words as they occur in the text, b) their POS, and c) their lemmas. NLPytaly permits the modification, where necessary, of such outcomes, whether that be the POS or the lemma (errors occur in both), and returns a richer morphosyntactic representation, which provides the features number, person, and gender of relevant words, as well as key elements of constituency. Having inputted unannotated text, the automatic extraction of semantic roles will be obtained, which in turn allows for entailment detection. The meaning which NLPytaly extracts is based on a novel type of semantic role, labeled as Cognate Semantic Role.

All interested people, in particular students, are invited to participate

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