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14h00
UT3 Paul Sabatier, IRIT, Auditorium J. Herbrand

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Computing Meaning: Words, Sentences and Beyond

Jury:
Nicholas Asher (DR. CNRS-IRIT) – Parrain
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Thierry Poibeau (DR. CNRS-LATTICE) – Rapporteur
Manfred Stede (Pr. Univ. de Postdam) – Rapporteur
Paolo Rosso (Pr. Univ. Polytechnique de Valence) – Examinateur
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Abstract: Making computers understand natural language texts, as people usually do, opens a wide range of fascinating possibilities like machines that can answer natural language questions, machines that can detect ironic statements or machines that can interpret our feelings and emotions towards a certain topic. In order to achieve these possibilities, computers need to understand the kind of information and inferential mechanisms needed to associate meaning to linguistic expressions. I will show that this cannot be achieved without considering the context in which a text is uttered.

An intuitive view is to consider the distinctions between the linguistic information formed by morphological, syntactic or textual material surrounding to the word, and any other contextual information surrounding the utterance. The interaction between these different sources of contextual information provides a set of challenging issues in the semantics/pragmatics interface and has been the center of my research interests since 10 years. I am specifically interested in studying how the treatment of linguistic phenomena, in particular at the discourse level, can benefit natural language understanding systems, and help such systems advance beyond representations that include only bags of words or bags of sentences. My work was really been organized around discourse analysis and processing of evaluative language at different linguistic levels of interpretation:
- From words to sentences: Exploring how sentiment is expressed and extracted, at the word, phrase and sentence focusing on lexical semantics of evaluative expressions and sentiment composition.
- From sentences to discourse: Focusing on the study of the role of discourse structure, including coherence and rhetorical relations, to sentiment analysis and Arabic processing.
- From discourse to pragmatic inferences: Focusing on the study of four phenomena for which people make inferences in their everyday use of language: (a) Inferences arising when answering natural language questions, (b) Inferences made to detect implicit evaluations, (c) Inferences that are drawn when searching for the figurative meaning of an utterance, and (d) Inferences made to detect the future state of affairs or plans a writer wants to achieve.

The results show that incorporating linguistic insights, discourse information and other contextual phenomena, in combination with the statistical exploitation of data can result in an improvement over approaches which take advantage of only one of those perspectives.