Special Track on

Artificial Intelligence, Cognitive Semantics, Computational Linguistics, and Logic

This special track is a forum for discussing the latest approaches in computational linguistics related to cognitive semantics and to artificial intelligence. Its aim is also to exchange ideas concerning the way of building efficient systems for language analysis based on cognitive semantic models. The ST contributions can be briefly characterized as follows: from logic, by lexical meaning and syntactic structure, to ontologies and inference systems for complex linguistic analysis systems.

On the occasion of the silver anniversary of the FLAIRS conference, the logic applied to artificial intelligence systems will be honored. The topic of the keynote talk of the track is lexical meaning analysed by means of typed applicative representations generated from semantic abstract primitives using combinatory logic. The notions of logic translation and sublogic and their impact on ontology design as well as their place in the universal logic project are presented.

Propositional attitudes in noncompositional logic are analysed from the view point of integration of their epistemic and deontic components. A new logical calculus for propositional attitudes inspired by possibility theory, a noncompositional version of fuzzy logic is proposed. The formal semantics of speech acts is represented by a paper showing how this model can be extended to take into account the social effects and interactive aspects of illocutionary activity. Focusing on the semantics of assertions and descriptive discourse, contrasting the individual aspect of speaker's meaning and the epistemic effects of assertion making. The paper "Formal Properties of a Free Word Order Language" investigates a phenomenon of free word order through the analysis by reduction. It exploits its formal background and data types and studies the word order freedom by means of the minimal number of word order shifts. Finally, an ontology of linguistic resources with an inference system in a web context is presented in the paper "Enhancing Publication Description with Resources Metadata." In this manner we proceed from logic, by lexical meaning and syntactic structure, to ontologies and inference systems for complex linguistic analysis systems.