

Montague Grammar Induction

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We propose a computational modeling framework for inducing combinatory categorial grammars from arbitrary behavioral data. This framework provides the analyst fine-grained control over the assumptions that the induced grammar should conform to: (i) what the primitive types are; (ii) how complex types are constructed; (iii) what set of combinators can be used to combine types; and (iv) whether (and to what) the types of some lexical items should be fixed. In a proof-of-concept experiment, we deploy our framework for use in distributional analysis. We focus on the relationship between s(emantic)-selection and c(ategory)-selection, using as input a lexicon-scale acceptability judgment dataset focused on English verbs' syntactic distribution (the MegaAcceptability dataset) and enforcing standard assumptions from the semantics literature on the induced grammar.