

ABSTRACT**"Parsing and Translating Natural Language Sentences Automatically"**

A sentence of a natural language is automatically parsed by: defining a set of coded tags each corresponding to a respective part-of-speech of a word in a sentence of the language; building a small corpus of sentence dependency structures by annotating with the corresponding coded tags the words in each sentence of a set of sentences having respective exemplary dependency structures to obtain a set of sequences of coded tags representing the dependency structures; determining the statistical parameters of a corpus-based statistical tool, such as a hidden Markov model, from the corpus of sentence dependency structures; tagging the words of an input sentence to be parsed with the corresponding coded tags to obtain a sequence of coded tags to derive therefrom the most probable dependency structure for the input sentence; and generating a dependency parse tree of the sentence from the derived dependency structure and the words of the input sentence. The invention finds particular application in the automatic translation of a first natural language into a second language.

Figure 3