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A tool to analyze verb phrase and noun phrase relationship in sentences

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Abstract

SPACY is a well-known package for NLP analysis for delineating the Verb phrases and Direct Objects in English by applying the default structures to define noun phrase. However, SPACY lacks a function to include the status of adjectives and vast amount of noun phrase structures for identifying the relationship between Verbs and Nouns efficiently. The present study develops a SPACY-based program to customize practical noun phrase structures written in industrial SOPs for machine operations. It performs better at merging overlapping structures, for example, a sentence An important thing of NLP is hard to define can be processed to be An important thing, NLP, thing of NLP; and then automatically merged into one noun phrase An important thing of NLP. The capacity of the program can abstract the core concepts of sentences and recognize the co-occurrences of noun phrases and their associated verbs from the corpus for research and application purposes.