Discovering Semantic Links Between Synonyms, Hyponyms and Hypernyms

Authors : Ricardo Avila, Gabriel Lopes, Vania Vidal, Jose Macedo

Abstract : This proposal aims for semantic enrichment between glossaries using the Simple Knowledge Organization System (SKOS) vocabulary to discover synonyms, hyponyms and hyperonyms semiautomatically, in Brazilian Portuguese, generating new semantic relationships based on WordNet. To evaluate the quality of this proposed model, experiments were performed by the use of two sets containing new relations, being one generated automatically and the other manually mapped by the domain expert. The applied evaluation metrics were precision, recall, f-score, and confidence interval. The results obtained demonstrate that the applied method in the field of Oil Production and Extraction (E&P) is effective, which suggests that it can be used to improve the quality of terminological mappings. The procedure, although adding complexity in its elaboration, can be reproduced in others domains.