KIASOntoRec: A Knowledge Infused Approach for Socially Aware Ontology Recommendation

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ABSTRACT ORIGINAL

The World Wide Web is progressively adopting web 3.0 standards, and there is a demand for semantically compatible recommendation techniques in today's world. This paper presents a framework to facilitate Knowledge infused automatic Ontology recommendation. User queries and user clicks data are preprocessed and Structural Topic Modelling is employed to identify the latent sematic structure found in the corpus and generate topics. RDF triplets are generated based on the topics extracted using OntoCollab. RDF data along with the Google's Knowledge Base API used to obtain the subgraphs and relevant topics. Bagging algorithm based on Random Forest Classification Technique with Decision Trees Algorithm is used to classify the terms. A knowledge base is constructed by merging the subgraphs. Semantic similarity among entities of the knowledge graph and the top 25% of the classified results is computed using SemantoSim and ANOVA. The topic set is extracted and subjected to axiomatization. Finally, the most relevant Ontology to the user query is suggested to the user. © 2023, The Author(s), under exclusive license to Springer Nature Switzerland AG.