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Prompt-assisted Relation Fusion in Knowledge Graph Acquisition

AI framework automating knowledge graph labeling and clustering to improve recommendations and data use.

In artificial intelligence, knowledge graphs are used to model relationships between knowledge items. Researchers at Purdue University have developed a relation fusion framework for AI systems to automatically categorize knowledge items into clusters and knowledge graphs based on semantic similarity. They accomplish this categorization by leveraging pretrained language models (PLMs). This approach allows for reduced redundancy in the categorization process. This technology has applications in AI systems to improve recommendations, text response, and more. Specifically, this tool can be used to help engineers by automatically recommending relation labels to improve the efficiency of knowledge graph acquisition.

Technology Validation: This technology has been validated through using a prototype system to categorize sentences from real world datasets.

Advantages

-Reduced categorization redundancy

-Automatic labelling/categorization for AI systems

-PLM-driven knowledge graph creation

Applications

-AI/Machine Learning

-Data visualization

-Data grouping

TRL: 3

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Category
Artificial Intelligence & Machine Learning/Natural Language Processing & Generative AI

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Keywords: knowledge graph automation,AI semantic clustering,relation extraction framework,pretrained language models,data categorization automation,AI knowledge representation,automatic relation labeling,intelligent data grouping,recommendation systems AI,text mining tools