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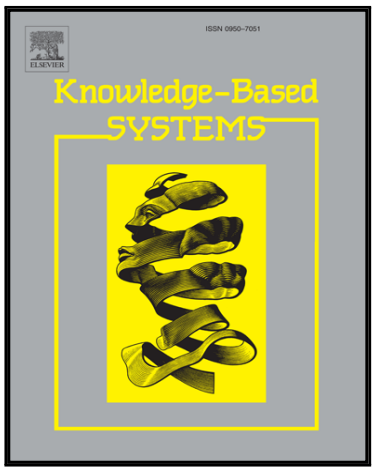

Event-Based Knowledge Reconciliation using Frame Embeddings and Frame Similarity

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Event-Based Knowledge Reconciliation using Frame Embeddings and Frame Similarity

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Abstract

This paper proposes an evolution over MERGILO, a tool for reconciling knowledge graphs extracted from text, using graph alignment and word similarity. The reconciled knowledge graphs are typically used for multi-document summarization, or to detect knowledge evolution across document series. The main point of improvement focuses on event reconciliation i.e., reconciling knowledge graphs generated by text about two similar events described differently. In order to gather a complete semantic representation of events, we use FRED semantic web machine reader, jointly with Framester, a linguistic linked data hub represented using a novel formal semantics for frames. Framester is used to enhance the extracted event knowledge with semantic frames. We extend MERGILO with similarities based on the graph structure of semantic frames and the subsumption hierarchy of semantic roles as defined in Framester. With an effective evaluation strategy similarly as used for MERGILO, we show the improvement of the new approach (MERGILO plus semantic frame/role similarities) over the baseline.

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