A Hybrid Intelligent System for Abstractive Summarization

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Authors:
Dania Sagheer, Fadel Sukkar

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Abstract

In this paper, we present a new technique for abstractive summarization of Arabic texts. A system of knowledge base and fuzzy logic has been designed and implemented to simulate human ability of understanding the content of Arabic text, and to create abstractive summary for this text. The knowledge base has been designed for financial and economic field. It consists of facts and if-then rules. The sentences have been parsed by previous stage. The sentences of summary have been obtained using knowledge based system, then Fuzzy system has been designed for selecting appropriate summary of sentences. General membership function has been designed to obtain all the mathematical shapes of membership functions. The peak of the membership function has been designed for hierarchy relations of concepts, and for the destination of semantic relations. The edges of the function has been designed for semantic relations of concepts, and for the domain of semantic relations. The system has been tested on texts for different subjects. The texts have been taken from EASC University Corpus (Essex Arabic Summaries Corpus). The results of this research have shown the effectiveness of the novel hybrid system in terms of semantic, meaning and right composition.
References


Index Terms

Computer Science Information Sciences

Keywords

Abstractive Summarization, Knowledge Base, Fuzzy Logic