

UE20CS322-AIWIR PAPER READING - 1

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Introduction

The fast expansion of the search engines sector has significantly raised research interest in information retrieval. (IR).

Over the course of several decades, a number of traditional retrieval models, such as probability models, statistical language models, and vector space models, have been published.

Ad hoc retrieval tasks and many natural language processing (NLP) tasks, according to Guo et al. (2016), have matching problems that are fundamentally different from one another.

While the majority of NLP tasks rely on semantic matching, ad hoc retrieval tasks generally use relevance matching.

This research argues that combining relevance matching and semantic matching is the best way to close the semantic text gap between query and document representations.

Significant challenges in IR include analysing semantic data in context and connecting the semantics of the query to the content on web pages.

This research examines the roles of relevance matching and semantic matching in information retrieval using BERT as the representative model in our suggested framework.

Result

We provide our experimental results and conduct a careful analysis.
We offer empirical values to improve the models' performance.

Conclusion

A PRF architecture that combines relevance matching and semantic matching is recommended to enhance retrieval performance.

The model reported in this work significantly enhances retrieval performance by comparing the MAP and P@10 outcomes obtained utilising the five enhanced models and the corresponding robust baseline models on four TREC datasets.

By analysing the parameters N , α , and β , we present the empirical values that produce the best model performance.

Both theory and practises can benefit from the findings of our research.

The proposed PRF techniques can both enhance the precision of the top 10 documents and the MAP of the top 1000 results.