Using Tag-Neighbors for Query Expansion in Medical Information Retrieval

In the context of medical document retrieval, users often under-specified queries lead to undesired search results that suffer from not containing the information they seek, inadequate domain knowledge matches and unreliable sources. To overcome the limitations of under-specified queries, we utilize tags to enhance information retrieval capabilities by expanding users' original queries with context-relevant information. We compute a set of significant tag neighbor candidates based on the neighbor frequency and weight, and utilize the most frequent and weighted neighbors to expand an entry query that has terms matching tags. The proposed approach is evaluated using MedWorm medicalarticle collection and standard evaluation methods from the text retrieval conference (TREC). We compared the baseline of 0.353 for Mean Average Precision (MAP), reaching a MAP 0.491 (+39%) with the query expansion. In-depth analysis shows how this strategy is beneficial when compared with different ranks of the retrieval results.

General information
State: Published
Organisations: Aalborg University
Contributors: Durao, F., Bayyapu, K. R., Xu, G., Dolog, P., Lage, R.
Number of pages: 9
Publication date: 2011

Host publication information
Title of host publication: 2011 International Conference on Information Science and Applications (ICISA)
Publisher: IEEE
ISBN (Print): 978-1-4244-9222-0
DOIs:
10.1109/ICISA.2011.5772324
Source: dtu
Source-ID: n:oai:DTIC-ART:compendex/307959266::25877
Research output: Research - peer-review > Article in proceedings – Annual report year: 2011