Information Processing and Retrieval Project Report – Part 2

Instituto Superior Técnico – Universidade de Lisboa

Margarida Costa  
 83425

Marta Aparício  
 83525

Paulo Alves  
 83538

ABSTRACT

Introduction

1 An approach based on graph ranking

1.1 Implementation

1.2 Results

2 Improving the graph-ranking method

2.1 Implementation

2.2 Results

3 An unsupervised rank aggregation approach

3.1 Implementation

Combination methods tested were Reciprocal Rank Fusion (RRF), CombSum and CombMNZ. The features (ranking scores) considered were: term frequency (TF), inverse document frequency (IDF), TF-IDF and BM25 and graph centrality scores for the candidate. Graph centrality scores were computed through the library network.

3.2 Results

Table 1

Model\_1 : tf

Model\_2:idf

Model\_3: tfidf

Model\_4: bm25

Model\_5: bm25, tf

Model\_6: bm25, idf, tf, tfidf

|  |  |  |  |
| --- | --- | --- | --- |
|  | **RRF** | **CombSum** | **CombMNZ** |
| **Model\_1** | 0.03356 | 0.02953 | 0.02953 |
| **Model\_2** | 0.01678 | 0.03740 | 0.03740 |
| **Model\_3** | 0.02740 | 0.02526 | 0.02526 |
| **Model\_4** | 0.03356 | 0.07480 | 0.07480 |
| **Model\_5** | 0.02909 | 0.02229 | 0.02229 |
| **Model\_6** | 0.01846 | 0.01432 | 0.01432 |

4  A practical application

4.1 Implementation

4.2 Results