

Round 1 results — Run Technion-JPD submitted from Technion

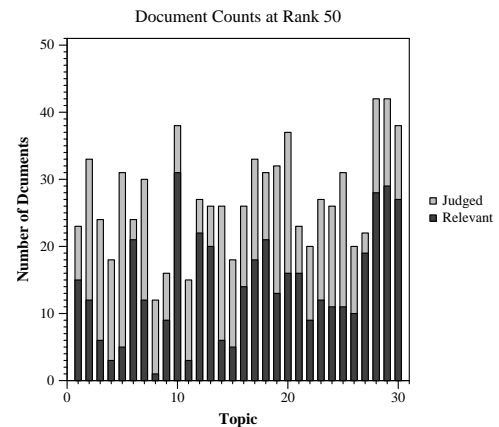
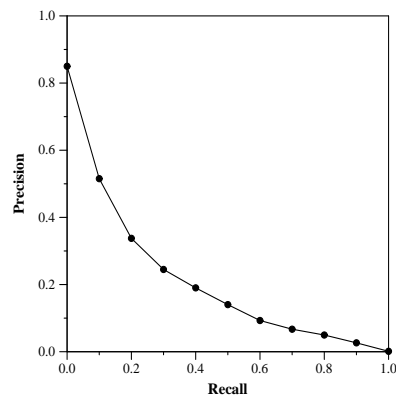
Run Description

The <query> tags served for queries. We applied Krovetz stemming to queries and documents and removed stopwords on the INQUERY list only from queries. The indri toolkit was used for all experiments. We used a standard unigram language model approach to retrieve an initial list of 1000 documents for a query. Then a passage-based document retrieval method is used to re-rank the initially retrieved list. For this run, we used the JPDm-max method which is a learning-to-rank-based document retrieval method that utilizes information induced from multiple passages. Specifically, the feature-based representation of the document’s passages. We used fixed-length windows of 300 terms as passages. For more details, please refer to the following work [Sheetrit E, Shtok A, Kurland O (2020) A Passage-Based Approach to Learning to Rank Documents. Information Retrieval Journal 23, 159–186 (2020). <https://doi.org/10.1007/s10791-020-09369-x>]. The INEX dataset [Geva S, Kamps J, Lethonen M, Schenkel R, Thom JA, Trotman A (2010) Overview of the inex 2009 ad hoc track. In: Focused retrieval and evaluation, pp 4-25] was used to train the document learning-to-rank method which was then applied on the CORD19 collection. The following two-phase procedure was used to learn the model. We first randomly split the set of queries to train (80%) and validation (20%); the latter was used to set the hyper-parameters of the LTR method. Once the best parameter values were selected, a final model was learned using all the queries. NDCG@20 was the optimization criterion. To train and apply the document ranker, we used a linear RankSVM [Joachims T (2006) Training linear SVMs in linear time. In Proc. of KDD, pp 217 - 226]. The regularization parameter is set to a value in {0.0001, 0.01, 0.1}.

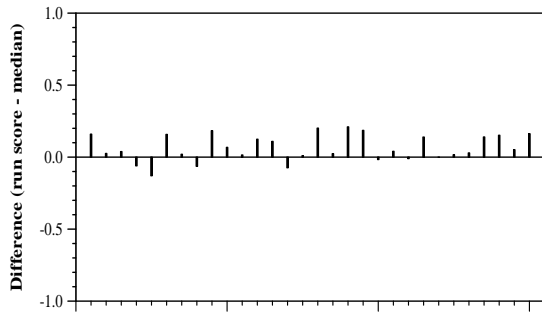
Summary Statistics	
Run ID	Technion-JPD
Topic type	automatic
Contributed to judgment sets?	yes

Overall measures	
Number of topics	30
Total number retrieved	30000
Total relevant	2352
Total relevant retrieved	1408
MAP	0.1988
Mean Bpref	0.3890
Mean NDCG@10	0.4375

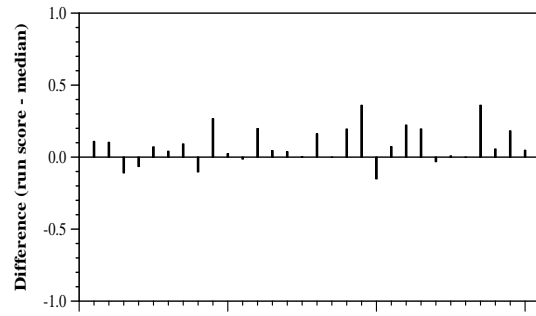
Document Level Averages	
	Precision
At 5 docs	0.5800
At 10 docs	0.4833
At 15 docs	0.4356
At 20 docs	0.3933
At 30 docs	0.3500
R-Precision	
Exact	0.2479



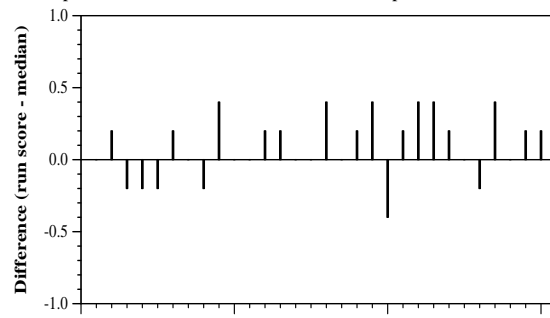
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Per-topic difference from median bpref for all Round 1 runs



Per-topic difference from median NDCG@10 for all Round 1 runs



Per-topic difference from median P@5 for all Round 1 runs