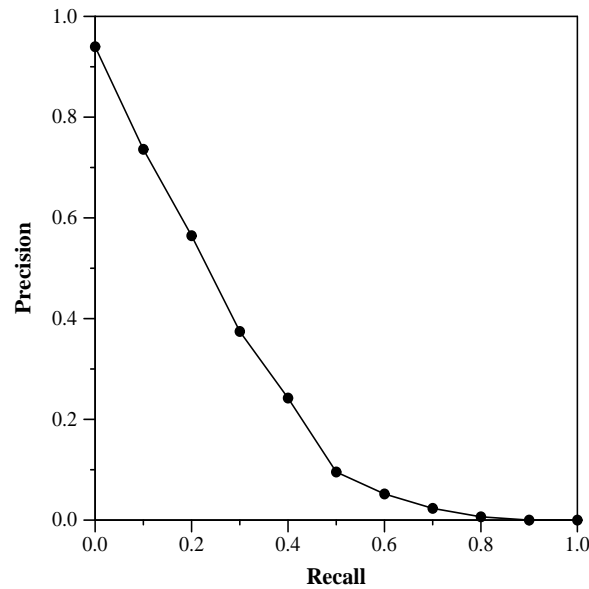
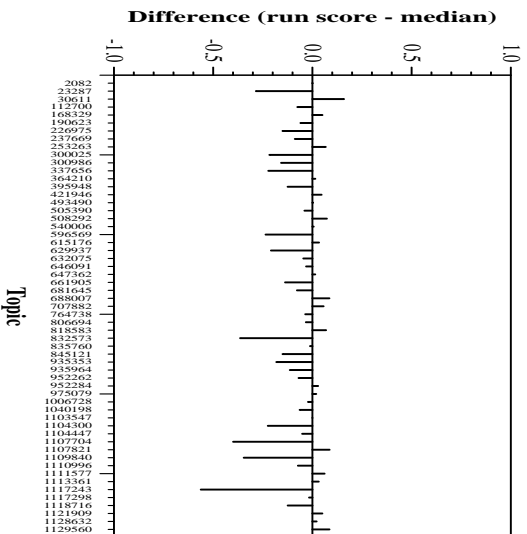


Deep Learning Track results — (L3S) L3S Research Center, Leibniz University Hannover, Germany

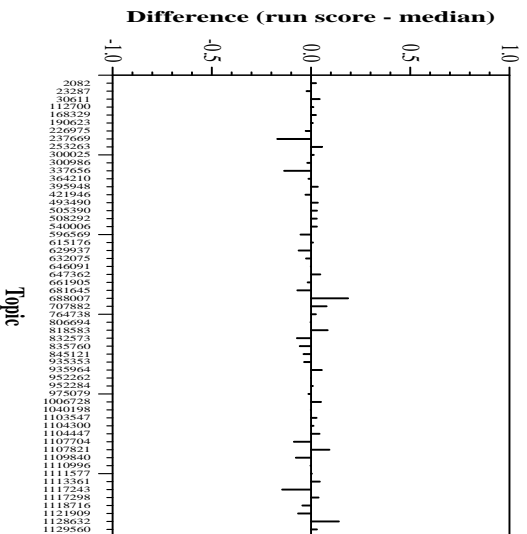
Run Description	
Run ID:	Fast_Forward_7
Task:	Document Ranking
Subtask:	Full ranking from the collection
Topic type:	Automatic
Single-stage retrieval?	No
Dense retrieval?	No
Used deep nn model?	Pre-trained model
Type of training:	Previous year's MS MARCO training data
Pre-processing/indexing cost:	The dense indexing cost would be roughly 1-2 weeks on 4 V100. Sparse indexing takes an hour on the CPU.
Query processing cost:	We have used the CPU for query processing. The approximate processing cost is 377ms per query (177ms sparse retrieval, 192ms dense query encoding, and lookups, 8ms for interpolation). These times depend on the system load factor.

Overall measures		Document Level Averages	
Number of topics	57	Precision	
Total number retrieved	5700	At 5 docs	0.8105
Total relevant	8203	At 10 docs	0.7544
Total relevant retrieved	2329	At 15 docs	0.7111
MAP	0.2525	At 20 docs	0.6711
Mean NDCG@10	0.5905	At 30 docs	0.6246
Mean Reciprocal Rank	0.8952	R-Precision	
		Exact	0.3194

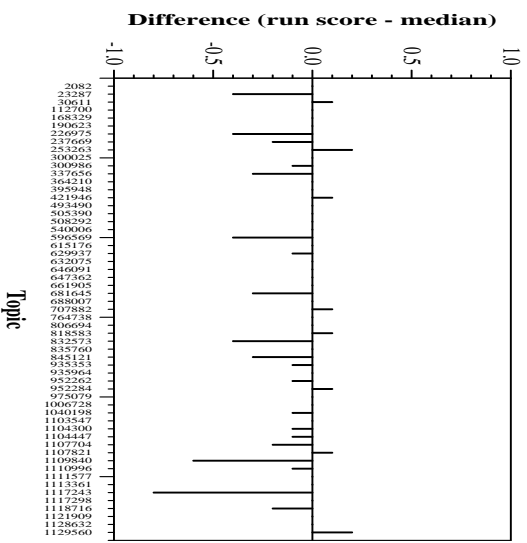




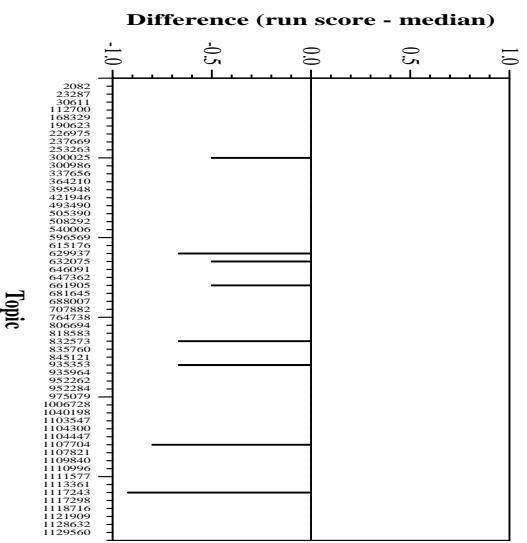
Per-topic difference from median for NDCG@10 for Document Ranking runs



Per-topic difference from median for Average Precision for Document Ranking runs



Per-topic difference from median for Prec@10 for Document Ranking runs



Per-topic difference from median for Reciprocal Rank for Document Ranking runs