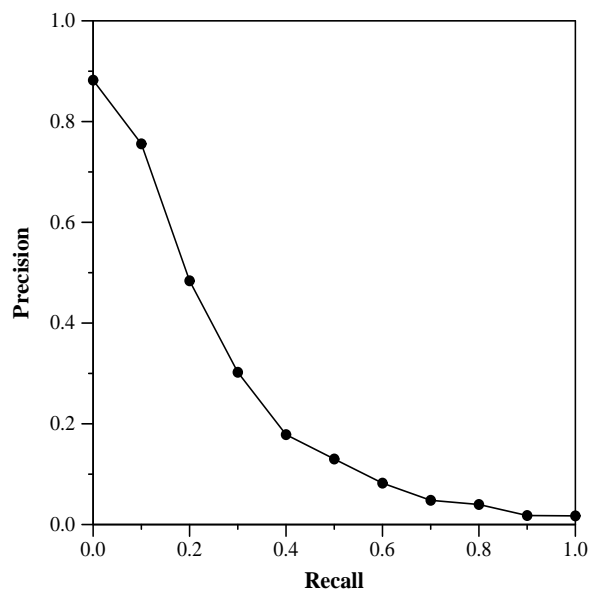
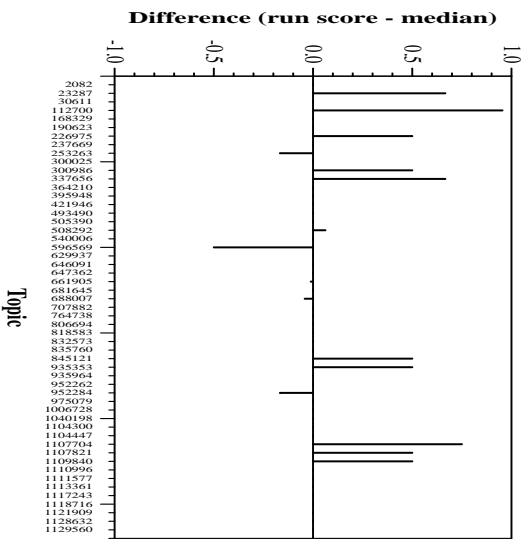
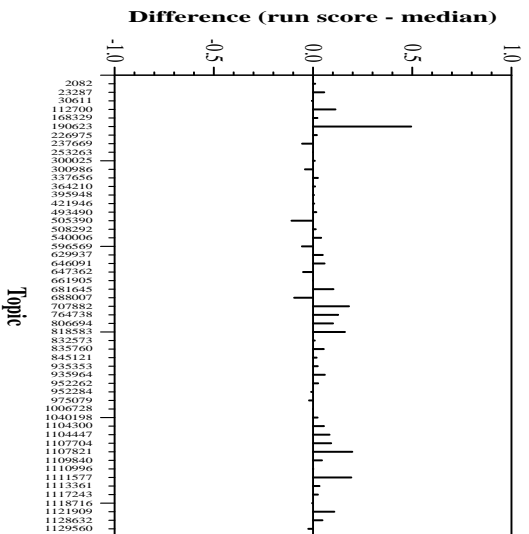
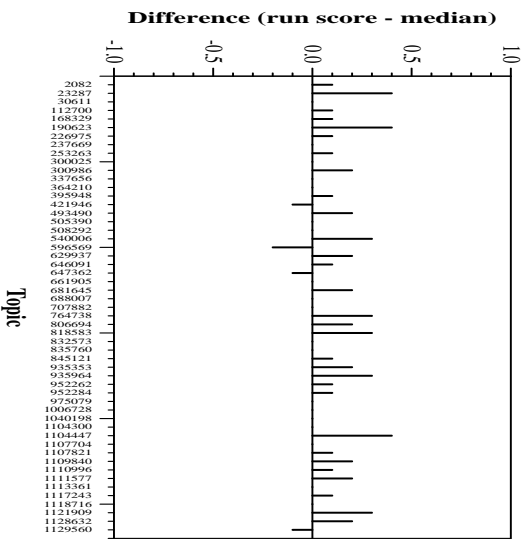
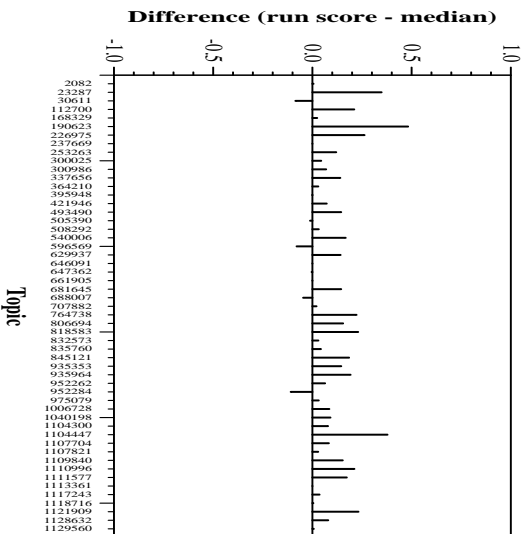


## Deep Learning Track results — (PASH) PingAn Smart Health

| Run Description               |   |
|-------------------------------|---|
| Run ID:                       | pash_r1   |
| Task:                         | Passage Ranking   |
| Subtask:                      | Reranking the official top 100  |
| Topic type:                   | Automatic   |
| Single-stage retrieval?       | No  |
| Dense retrieval?              | No  |
| Used deep nn model?           | Pre-trained model   |
| Type of training:             | This year's MS MARCO training data  |
| Pre-processing/indexing cost: | The open source pre-trained docT5query model is used to predict queries for passages or segment passages(for documents). The process of query generation takes 8 days on 64 Tesla V100 GPUs(16GB). Indexing the collection takes 1.5 hours on 32 threads. |
| Query processing cost:        | In the pointwise stage, inference on all queries takes approximately 5 hours on 8 Tesla V100 GPUs(16GB). In the pairwise stage, inference on all queries takes approximately 5 hours on 16 Tesla V100 GPUs(16GB).   |

| Overall measures         |        | Document Level Averages |             |
|--------------------------|--------|-------------------------|-------------|
| Number of topics         | 53     |                         | Precision   |
| Total number retrieved   | 5300   | At 5 docs               | 0.6755      |
| Total relevant           | 3427   | At 10 docs              | 0.6057      |
| Total relevant retrieved | 879    | At 15 docs              | 0.5421      |
| MAP                      | 0.2362 | At 20 docs              | 0.4972      |
| Mean NDCG@10             | 0.6951 | At 30 docs              | 0.4138      |
| Mean Reciprocal Rank     | 0.8663 |                         | R-Precision |
|                          |        | Exact                   | 0.2812      |





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

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