

RankSVM-Struct on LETOR 4.0

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Introduction to RankSVM-Struct

RankSVM-Struct is an instance of *SVM^{struct}* for efficiently training Ranking SVMs as defined in [Joachims, 2002c]. RankSVM-Struct solves the same optimization problem as *SVM^{light}* with the '-z p' option, but it is much faster.

The details of RankSVM-Struct can be found at [this page](#), and the package can also be downloaded from the page.

Learning Parameters

For all datasets the learner was called with

```
svm_rank_learn -c <C> -e 0.001 -l 1 train.txt model
```

where <C> takes the values (0.00001, 0.00002, 0.00005, 0.0001, 0.0002, 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10). For each fold, the value with the best MAP performance on the validation set was selected and its test set performance is reported. The value that achieved best validation set performance is shown in following table.

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Dataset	<C> (from Fold1 to Fold5)
MQ2007	0.5, 5, 0.5, 0.5, 2
MQ2008	10, 2, 1, 0.2, 0.5

Papers & Docs

T. Joachims, Training Linear SVMs in Linear Time, Proceedings of the ACM Conference on Knowledge Discovery and Data Mining (KDD), 2006.

Notes

This document was created by Tao Qin, and the experiments were conducted by Tao Qin. If any problem, please contact letor@microsoft.com.