

Ranking SVM on LETOR

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Introduction to Ranking SVM

The basic idea of Ranking SVM is to formalize learning to rank as a problem of binary classification on instance pairs, and then to solve the problem using Support Vector Machines.

The details of Ranking SVM can be found from <http://www.research.microsoft.com/~rherb/papers/herobergrae99.ps.gz> and <http://svmlight.joachims.org/>.

Learning Parameters

We used a [code](#) based on primal optimization of the objective function as described in this [paper](#). The multiplier in front of the loss term is C/n where n is the number of preference pairs and C is chosen on the validation set in the set

{0.01, 0.1, 1, 10, 100}.

The Matlab script used to run these experiments can be found [here](#).

Dataset	C (from Fold1 to Fold5)
OHSUMED	0.01, 10, 100, 10, 10
TD2003	100, 100, 100, 100, 100
TD2004	100, 100, 100, 100, 100
HP2003	100, 1, 10, 10, 100
HP2004	100, 100, 100, 100, 10
NP2003	10, 100, 100, 100, 100
NP2004	100, 1, 100, 0.01, 0.01

Papers & Docs

R. Herbrich, T. Graepel, and K. Obermayer. Large Margin Rank Boundaries for Ordinal Regression. Advances in Large Margin Classifiers, 115-132, Liu Press, 2000.

T. Joachims. Optimizing Search Engines Using Clickthrough Data, Proceedings of the ACM Conference on Knowledge Discovery and Data Mining (KDD), ACM, 2002.

O. Chapelle and S. S. Keerthi. Efficient algorithms for ranking with SVMs. Information Retrieval Journal, Special Issue on Learning to Rank, 2009. to appear.

BibTex

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@inbook{citeulike:477598,
  author = {Herbrich, Ralf and Graepel, Thore and Obermayer, Klaus },
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@inproceedings{775067,
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  pages = {133-142}
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doi = {http://doi.acm.org/10.1145/775047.775067},  
publisher = {ACM},  
address = {New York, NY, USA},  
}
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Notes

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