Learning to rank summary

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1 Original Papers and Surveys

Tie-Yan Liu, Learning to rank tutorial, WWW 2008.

Z. Cao, et al, Learning to Rank: From Pairwise Approach to Listwise Approach, ICML2007.

F. Xia, et al, Listwise Approach to Learning to Rank - Theory and Algorithm, ICML 2009

Chapelle, et al., Yahoo Learning to Rank Challenge Overview. Yahoo challenge 2011.

Chapelle, et al., Future directions in learning to rank. Yahoo challenge 2011.

2 Extension: learning techniques

J. Wang, et al., Learning Fine-grained Image Similarity with Deep Ranking, CVPR 2014

Y. Freund, et al., An Efficient Boosting Algorithm for Combining Preferences, JML 2003

Pairwise rank

T. Joachims, Optimizing Search Engines using Clickthrough Data, KDD 2002

M. Varma, et al., Learning The Discriminative Power-Invariance Trade-Off, ICCV 2007

3 Large Scale, Distributed Imbalance Class

Galar, et al., A Review on Ensembles for the Class Imbalance Problem: Bagging-, Boosting-, and Hybrid-Based Approaches, Transactions on Cybernets 2009.

Zhuang, et al., Distributed Newton Method for Regularized Logistic Regression, Tech report 2014

Distributed optimization

Dean, et al., Large Scale Distributed Deep Networks, NIPS 2012

Goner, et al., Multiple kernel learning algorithms, JML 2011

It contains several approaches of MKL.

4 Application: Image Retrieval

Hua, et al., Clickage: Towards Bridging Semantic and Intent Gaps via Mining Click Logs of Search Engines MM 2013.

Yu, et al., Learning to Rank Using User Clicks and Visual Features for Image Retrieval, IEEE Trans. on Cybernetics. 2013.

Yu, et al., Click Prediction for Web Image Reranking using Multimodal Sparse Coding, IEEE Trans. on Image Processing 2013.

Zhang and Rui, Image Search–From Thousands to Billions in 20 Years, ACM Trans 2013

Hanjalic, Multimedia Search: From Relevance to Usefulness, IEEE Multimedia 2015.

5 Users' intent

6 Application: Recommendation and Advertisement

A. Karatzoglou, et al, Learning to rank for recommender systems, RecSys 2013.

7 Software

Yandex learning to rank in C++, L2R in C++ 2013.

Joachims, Cornell RankSVM.

8 Datasets

Clickture (MSR-Bing challenge dataset), An article describing the dataset can be found at

Hua et al., MINING, KNOWLEDGE FROM CLICKS: MSR-BING IMAGE RETRIEVAL CHALLENGE, ICME 2014.

LETOR 4.0 Datasets, containing MQ2007 and MQ2008

Pascal large scale machine learning, Epislon