TAO WU

Department of Computer Science
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Education

- **Ph.D. (Computer Science)**, Purdue University — 2013.08 - 2018 (expected)
- **B.S. (Mathematics)**, Univ. of Sci. & Tech. of China — 2009.09 - 2013.06

Experience

Research Assistant *at Dep. of Computer Science, Purdue University, IN* — 2013.08 - present

- Tensor Spectral Clustering: studied spectral clustering methods for high-order text data.
- Effective Session Search: applied supervised ranking aggregations to local contexts with multiple weighting hypotheses, improving the session search.
- Mixture Model in Review Assignments: mixture models for predicting reviewers' responses.
- Learning from Expert Research: achieved best results from our innovated multi-instance hierarchical multi-label learning methods.
- Expert Profiling System: built the information system INDURE by merging heterogeneous data, building search indices, and completing functionalities.

Research Intern *at Cloud Research Lab, Samsung Research America, CA* — 2015.05 - 2015.08

- Trim Convolutional Neural Network: reduced size by 91.70% with only 2.57% loss in accuracy applying fine-tune techniques on the reference CaffeNet (modified AlexNet).

Research Intern *at WSDM, Microsoft Research Asia, Beijing, China* — 2012.08 - 2013.05

- Generalized Second Price (GSP) Auctions: developed theories for value externalities.
- Efficiency of Equilibria in GSP: improve the theoretical results of Price of Anarchy for GSP.
- Optimal Mechanism design: derived the optimal pricing strategy for revenue maximization.

Skills

- Programming skill: Python, Java, Php, C/C++, Matlab, Julia, Javascript, C#, AJAX.
- Software & Tool: MySQL, Numpy, IPython, git, R, Caffe, Google Protocol buffers, Lemur.
- Research skills: Machine Learning, Linear Algebra & Optimization, Network Analysis.

Publications

1. Zhiwei Zhang, Jingang Wang, Tao Wu, Pengjie Ren, Zhumin Chen and Luo Si. "Supervised Local Contexts Aggregation for Effective Session Search" ECIR 2016.
2. Wu, Tao, Qifan Wang, Zhiwei Zhang, and Luo Si. "Determining expert research areas with multi-instance learning of hierarchical multi-label classification model." IJCAI 2015.
3. Weidong Ma, Tao Wu, Tao Qin, and Tie-Yan Liu. "Generalized second price auctions with value externalities." AAMAS 2014.
4. Wenkui Ding, Tao Wu, Tao Qin, and Tie-Yan Liu. "Pure Price of Anarchy for Generalized Second Price Auction." arXiv preprint arXiv:1305.5404 (2013).