

# DL-WSDM'15: Workshop on Deep Learning for Web Search and Data Mining

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## ABSTRACT

In recent years, deep learning has been a very hot topic in the machine learning community. It has brought break-through results in image classification and speech recognition. Most recently, researchers have also got many promising results in natural language processing using deep learning techniques. As machine learning techniques are widely used in the Web search and data mining applications, many researchers and practitioners are studying the possibility of applying the recently-developed deep learning techniques into these applications. Some of them have made very promising progress, and thus it is a good time to hold a workshop to discuss and share the problems and progress in using deep learning techniques to improve Web search and data mining tasks.

## Categories and Subject Descriptors

I.2.6 [Computing Methodologies]: Artificial Intelligence - Learning

## Keywords

Machine learning; deep learning; information retrieval; data mining.

## 1. DESCRIPTION

The main objective and goal of this workshop is to bring together researchers and practitioners that are applying machine learning (especially deep learning) techniques in Web search and data mining tasks, and enable them to share their latest research results, to express their opinions, and to discuss future directions.

The algorithms and applications discussed in this workshop are in the scope of Web search and data mining tasks.

We expect that the WSDM audience get more familiar with the progress of deep learning and get more willing to try deep learning techniques in their research or application problems.

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## 2. TOPICS AND THEMES

The topics and themes in this workshop are highly related to WSDM. They include but not limited to:

1. Deep learning algorithms and models for search and data mining
2. Unsupervised feature learning models for search and mining applications
3. Inference and optimization algorithms in deep learning for search and data mining
4. Semi-supervised learning and transfer learning algorithms
5. Deep learning implementation issues, parallelization, software platforms, and tools

## 3. ORGANIZERS

Bin Gao is a lead researcher in Internet Economics and Computational Advertising Group (IECA), Microsoft Research. His research interests include machine learning, data mining, information retrieval, and computational advertising. He has authored two book chapters, 30 papers in top conferences and journals, and over 20 granted or pending patents. He co-authored the best student paper at SIGIR (2008). He serves as PC for SIGIR (2009 2014), WWW (2011 2013), and senior PC for CIKM (2011). He is a reviewer for TKDE, TIST, PRL, IRJ, etc. He is a tutorial speaker at WWW (2011) and SIGIR (2012). He is a workshop organizer at ICDM (2012), SIGIR (2013), KDD (2013), and ICML (2014).

Jiang Bian is a researcher in Microsoft Research, and his current research focuses on machine learning, data mining, and computational advertising. Before joining Microsoft, he worked at Yahoo! Labs and did many studies on content optimization and personalization for Yahoo!'s key content modules as well as local content search and recommendation for Yahoo!'s local services. Jiang received his B.S. from Peking University (2006) and Ph.D. from Georgia Institute of Technology (2010), both in Computer Science. He authored tens of academic research papers receiving hundreds of citations, filed a couple of U.S. patents, and served as PC member for a few international conferences, such as WWW, KDD, SIGIR, AAAI, IJCAI, CIKM, etc. He played as local co-chair for CIKM 2013. And, he also served as peer reviewer for a few journals, including TOIS, TIST, TKDE, JMLR, etc.