

# Mingsheng Long

DOCTOR OF PHILOSOPHY · ASSISTANT PROFESSOR

11-413, East Main Building, Tsinghua University, Beijing 100084, CHINA

☎ (+86) 138-1162-9955 | ✉ longmingsheng@gmail.com | 🏠 ise.thss.tsinghua.edu.cn/ mlong

“Everything should be made as simple as possible, but no simpler.”

## Research Interests

---

- Machine Learning** Deep Learning, Transfer Learning, Structured Learning, Multitask Learning, Multimodal Learning  
**Data Science** Multimodal Data Analysis, Content-based Information Retrieval, Spatial and Temporal Data Mining  
**Big Data Systems** Scalable Machine Learning Systems, Distributed Computing, Systems Management and Optimization

## Education

---

### Tsinghua University

PH.D. IN COMPUTER SCIENCE

Beijing, China

Sep. 2008 - Jul. 2014

- Dissertation Title: *Transfer Learning: Problems and Methods*.
- Distinguished Dissertation Award, China Association for Artificial Intelligence (CAAI).
- Advisor: Prof. Jianmin Wang

### Tsinghua University

B.E. IN ELECTRICAL ENGINEERING

Beijing, China

Sep. 2004 - Jul. 2008

- Dissertation Topic: *Scientific Visualization Methods for Energy Management Systems*.

## Research Experience

---

### Tsinghua University

ASSISTANT PROFESSOR IN COMPUTER SCIENCE

Beijing, China

Jul. 2016 - PRESENT

- Principal Investigator: *Safe Transfer Learning for Big Data Analytics*, National Natural Science Foundation (NSFC), 2016-2018.
- Co-Principal Investigator: *Development Platform for Big Data Analytics in Key Domains*, 2016-2018.
- Co-Principal Investigator: *Meteorological Big Data Analytics and Processing Systems*, 2016-2018.

### Tsinghua University

POSTDOC RESEARCHER IN COMPUTER SCIENCE

Beijing, China

Jul. 2014 - Jul. 2016

- Research Topic: *Large-Scale Machine Learning: Computing Framework and Optimization Algorithms*.
- Principal Investigator: *Scalable Transfer Learning: Theory and Algorithms*, China Postdoctoral Science Foundation, 2014-2016.
- Advisor: Prof. Jianmin Wang

### University of California, Berkeley

VISITING RESEARCHER IN COMPUTER SCIENCE

CA, U.S.A.

Sep. 2014 - Oct. 2015

- Research Topic: *Large-Scale Deep Learning and Transfer Learning in the Context of Spark and MLBase*.
- Advisor: Prof. Michael I. Jordan

## Teaching

---

### Institute for Data Science, Tsinghua University

INSTRUCTOR: FOUNDATIONS OF BIG DATA SYSTEMS (B)

Beijing, China

Sep. 2015 - Jan. 2016

- Lectures on *Large-Scale Machine Learning Systems*: introduction to the principles of distributed machine learning, modern machine-learning systems including MapReduce, Spark, and Parameter Servers.

### School of Software, Tsinghua University

TEACHING ASSISTANT: INTRODUCTION TO BIG DATA TECHNOLOGY

Beijing, China

Feb. 2014 - Jul. 2014

- Instructor: Prof. Jianmin Wang

## Honors & Awards

---

2016	<b>Distinguished Dissertation Award</b> , China Association for Artificial Intelligence (CAAI)	Beijing, China
2014	<b>Distinguished Dissertation Award Nominee</b> , China Computer Federation (CCF)	Beijing, China
2014	<b>Distinguished Dissertation Award</b> , Tsinghua University	Beijing, China
2014	<b>Outstanding Ph.D. Graduate</b> , Tsinghua University	Beijing, China
2014	<b>Outstanding Ph.D. Graduate</b> , Beijing Municipal Government	Beijing, China
2014	<b>Academic Rising Star</b> , Tsinghua University	Beijing, China
2013	<b>Zhong Shi-Mo Outstanding Graduate Scholarship</b> , Tsinghua University	Beijing, China
2012	<b>Intel Fellowship</b> , Intel Inc. & Tsinghua University	Beijing, China
2012	<b>Nominee of Best Paper Award</b> , SIAM International Conference on Data Mining (SDM)	Anaheim, U.S.A.

## Publications

---

### JOURNAL ARTICLES

1. **Mingsheng Long**, Jianmin Wang, Yue Cao, Jianguang Sun, Philip S. Yu. **Deep Learning of Transferable Representation for Safe Domain Adaptation**. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 28(8):2027-2040, 2016.
2. **Mingsheng Long**, Jianmin Wang, Jianguang Sun, Philip S. Yu. **Domain Invariant Transfer Kernel Learning**. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 27(6):1519-1532, 2015.
3. **Mingsheng Long**, Jianmin Wang, Guiguang Ding, Dou Shen, Qiang Yang. **Transfer Learning with Graph Co-Regularization**. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 26(7):1805-1818, 2014.
4. **Mingsheng Long**, Jianmin Wang, Guiguang Ding, Sinno Jialin Pan, Philip S. Yu. **Adaptation Regularization: A General Framework for Transfer Learning**. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 26(5):1076-1089, 2014.

### CONFERENCE PROCEEDINGS

1. **Mingsheng Long**, Han Zhu, Jianmin Wang, Michael I. Jordan. **Unsupervised Domain Adaptation with Residual Transfer Networks**. In *Proceedings of Advances in Neural Information Processing Systems (NIPS)*. Barcelona, Spain, December 2016.
2. **Mingsheng Long**, Yue Cao, Jianmin Wang, Philip S. Yu. **Composite Correlation Quantization for Efficient Multimodal Retrieval**. In *Proceedings of the 39th ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)*. Pisa, Italy, July 2016.
3. Yue Cao, **Mingsheng Long\***, Jianmin Wang, Qiang Yang, Philip S. Yu. **Deep Visual-Semantic Hashing for Cross-Modal Retrieval**. In *Proceedings of the 22nd ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*. San Francisco, USA, August 2016.
4. Yue Cao, **Mingsheng Long\***, Jianmin Wang, Han Zhu, Qingfu Wen. **Deep Quantization Network for Efficient Image Retrieval**. In *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI)*. Phoenix City, USA, February 2016.
5. Han Zhu, **Mingsheng Long\***, Jianmin Wang, Yue Cao. **Deep Hashing Network for Efficient Similarity Retrieval**. In *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI)*. Phoenix City, USA, February 2016.
6. **Mingsheng Long**, Yue Cao, Jianmin Wang, Michael I. Jordan. **Learning Transferable Features with Deep Adaptation Networks**. In *Proceedings of the 32nd International Conference on Machine Learning (ICML)*. Lille, France, July 2015.
7. Wu Xiang, Jianmin Wang, **Mingsheng Long**. **Local Hybrid Coding for Image Classification**. In *Proceedings of Proceedings of the 22nd International Conference on Pattern Recognition (ICPR)*. Stockholm, Sweden, August 2015.
8. Xiangdong Huang, Jianmin Wang, Jian Bai, Guiguang Ding, **Mingsheng Long**. **Inherent Replica Inconsistency in Cassandra**. In *Proceedings of the 3rd International Congress on Big Data (BigData)*. Alaska, USA, July 2014.
9. **Mingsheng Long**, Jianmin Wang, Guiguang Ding, and Philip S. Yu. **Transfer Joint Matching for Unsupervised Domain Adaptation**. In *Proceedings of the 27th IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Columbus, Ohio, USA, June 2014.
10. **Mingsheng Long**, Jianmin Wang, Guiguang Ding, Jianguang Sun, Philip S. Yu. **Transfer Feature Learning with Joint Distribution Adaptation**. In *Proceedings of the 14th IEEE International Conference on Computer Vision (ICCV)*. Sydney, Australia, December 2013.
11. **Mingsheng Long**, Guiguang Ding, Jianmin Wang, Jianguang Sun, Philip S. Yu. **Transfer Sparse Coding for Robust Image Representation**. In *Proceedings of the 26th IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Portland, Oregon, USA, June 2013.
12. Jiangfeng Shi, **Mingsheng Long**, Qiang Liu, Guiguang Ding, Jianmin Wang. **Twin Bridge Transfer Learning for Sparse Collaborative Filtering**. In *Proceedings of the 17th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*. Gold Coast, Australia, June 2013.
13. **Mingsheng Long**, Jianmin Wang, Guiguang Ding, Dou Shen, Qiang Yang. **Transfer Learning with Graph Co-Regularization**. In *Proceedings of the 26th AAAI Conference on Artificial Intelligence (AAAI)*. Toronto, Canada, July 2012.
14. Lianghao Li, Xiaoming Jin, **Mingsheng Long**. **Topic Correlation Analysis for Cross-Domain Text Classification**. In *Proceedings of the 26th AAAI Conference on Artificial Intelligence (AAAI)*. Toronto, Canada, July 2012.
15. **Mingsheng Long**, Jianmin Wang, Guiguang Ding, Wei Cheng, Xiang Zhang, Wei Wang. **Dual Transfer Learning**. In *Proceedings of the 12th SIAM International Conference on Data Mining (SDM)*. Anaheim, CA, USA, April 2012. (Nominee of Best Paper Award)
16. **Mingsheng Long**, Wei Cheng, Xiaoming Jin, Jianmin Wang, Dou Shen. **Transfer Learning via Cluster Correspondence Inference**. In *Proceedings of the 10th IEEE International Conference on Data Mining (ICDM)*. Sydney, Australia, December 2010.

### PREPRINTS & TECHNICAL REPORTS

1. **Mingsheng Long**, Han Zhu, Jianmin Wang, Zhangjie Cao, Michael I. Jordan. **Learning Transferable Visual Features with Very Deep Adaptation Networks**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2016. (Under Review)
2. Zhangjie Cao, **Mingsheng Long**, Qiang Yang. **Transitive Hashing Network for Heterogeneous Multimedia Retrieval**. *arXiv:1608.04307*, 2016.
3. **Mingsheng Long**, Jianmin Wang, Michael I. Jordan. **Deep Transfer Learning with Joint Adaptation Networks**. *arXiv:1605.06636*, 2016.
4. **Mingsheng Long**, Jianmin Wang. **Learning Multiple Tasks with Deep Relationship Networks**. *arXiv:1506.02117*, 2015.

## Professional Activities

---

[1]	<b>Organizer, Program Chair</b> , <i>NIPS 2015 Workshop on Transfer and Multi-Task Learning</i>	2015
[2]	<b>Reviewer</b> , <i>Neural Information Processing Systems (NIPS)</i>	2016
[3]	<b>Reviewer</b> , <i>International Conference on Machine Learning (ICML)</i>	2014
[4]	<b>Reviewer</b> , <i>Artificial Intelligence Journal (AIJ)</i>	2016
[5]	<b>Reviewer</b> , <i>Machine Learning Journal (MLJ)</i>	2016
[6]	<b>Reviewer</b> , <i>IEEE Transactions on Knowledge and Data Engineering (TKDE)</i>	2015-2016
[7]	<b>Reviewer</b> , <i>IEEE Transactions on Image Processing (TIP)</i>	2014-2016
[8]	<b>Reviewer</b> , <i>IEEE Transactions on Neural Networks and Learning Systems (TNNLS)</i>	2016
[9]	<b>Reviewer</b> , <i>ACM Transactions on Multimedia Computing, Communications and Applications (TOMM)</i>	2014-2015

## Students Mentored

---

### • Current

Yue Cao, Ph.D. student, Tsinghua University  
Yunbo Wang, Ph.D. student, Tsinghua University  
Zhongyi Pei, Ph.D. student, Tsinghua University  
Jianjin Zhang, Ph.D. student, Tsinghua University  
Han Zhu, M.S. student, Tsinghua University  
Qiaoran Chen, M.S. student, Tsinghua University  
Feng Li, M.S. student, Tsinghua University  
Qingfu Wen, M.S. student, Tsinghua University  
Jue Wang, M.S. student, Tsinghua University  
Ziru Xu, M.S. student, Tsinghua University  
Zhifeng Gao, M.S. student, Tsinghua University  
Zhangjie Cao, undergraduate student, Tsinghua University  
Bin Liu, undergraduate student, Tsinghua University

### • Graduated

Wu Xiang, M.S., 2014 (Now at Google China and Hulu)  
Hao Hu, M.S., 2014 (Now at Google Bay Area)  
Wei Li, M.S., 2015 (Now at Google China)  
Yateng Tang, 2016 (Now at Tencent)

## References

---

### • Jianmin Wang, Ph.D. (Advisor)

Professor, Vice Dean  
School of Software  
Tsinghua University  
jimwang@tsinghua.edu.cn

### • Michael I. Jordan, Ph.D.

Distinguished Professor, Director of AMPLab  
Department of Electrical Engineering and Computer Science  
University of California, Berkeley  
jordan@cs.berkeley.edu  
<http://www.cs.berkeley.edu/~jordan>

### • Philip S. Yu, Ph.D.

Distinguished Professor and Wexler Chair in Information Technology  
Department of Computer Science  
University of Illinois at Chicago  
psyu@uic.edu  
<http://www.cs.uic.edu/PSYu>

### • Qiang Yang, Ph.D.

New Bright Professor of Engineering, Department Head  
Department of Computer Science and Engineering  
Hong Kong University of Science and Technology  
qyang@cse.ust.hk  
<http://www.cs.ust.hk/~qyang>