

CURRICULUM VITAE

Dr Tongliang Liu

Lecturer, UBTech Sydney AI Institute and School of IT

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EDUCATION

- Aug 12 – Apr 16** PhD at University of Technology Sydney (UTS), Australia
Supervisor: Prof Dacheng Tao
- Oct 15 – Mar 16** Visiting PhD student at Barcelona Graduate School of Economics (Barcelona GSE) and Pompeu Fabra University, Spain
Supervisor: Prof Gábor Lugosi and Dr Gergely Neu
- Aug 08 – Jul 12** BE at University of Science and Technology of China (USTC), China
Supervisor: Prof Zengfu Wang
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RESEARCH INTERESTS

Statistical Learning Theory, machine learning algorithms, optimisation, computer vision, neural networks, and learning with label noise

ACADEMIC EMPLOYMENT

- Mar 17 –** Lecturer in Statistical Learning theory and Machine Learning at The University of Sydney, Australia
- Oct 16 – Feb 17** Lecturer at the University of Technology Sydney, Australia
- Jun 16 – Sept 16** Senior research assistant at the University of Technology Sydney, Australia
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AWARDS AND HONORS

- **Teaching Excellent** – UTS 2016 (for the course “Statistical Learning” in the summer school project: Visual Computing and Big Data Analytics)
 - **The Chancellor’s List** – UTS 2016 (to remark six outstanding PhD theses across the university)
 - **IEEE Transactions on Cybernetics Outstanding Reviewer** – IEEE 2016
 - **Outstanding Xinjiang Self-financed Overseas Student Scholarship** – 2016
 - **FEIT Higher Degree by Research Publication Award** – UTS 2015
 - **Outstanding Self-financed Overseas Student Scholarship** – 2015 (500 recipients among all the self-financed overseas students from China; Awarded by China Scholarship Council)
 - **Best Paper Candidate** (4 of 716) – IEEE International Conference on Multimedia & Expo (ICME) 2014
 - **Best Paper Award** (1 of 311) – IEEE International Conference on Information Science & Tech (ICIST) 2014
 - **Outstanding Reviewer** – Computational Statistics & Data Analysis, Feb 2014
 - **Outstanding Undergraduate Research Program Scholarship** (with an A⁺ remark) – USTC 2011
 - **Bronze Scholarship** – USTC 2009
 - **Silver Scholarship** – USTC 2008
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ACADEMIC SERVICES

Journals

Guest Editor of

Journal of Optimization
Journal of Electrical and Computer Engineering

Reviewer for

IEEE Transactions on Neural Networks and Learning Systems
IEEE Transactions on Image Processing
IEEE Transactions on Cybernetics
IEEE Transactions on Systems, Man and Cybernetics: Systems
IEEE Transactions on Big Data
IEEE Transactions on Circuits and Systems for Video Technology
IEEE Transactions on Emerging Topics in Computational Intelligence
IEEE Internet of Things Journal
IEEE Signal Processing Letters
IEEE/ACM Transactions on Computational Biology and Bioinformatics

ACM Transactions on Knowledge Discovery from Data
ACM Transactions on Intelligent Systems and Technology
Tsinghua Science and Technology
Pattern Recognition
Signal Processing
Journal of Pattern Recognition Letters
Multidimensional Systems and Signal Processing
Information Processing and Management
Neurocomputing
Journal of Neural Processing Letters
Neural Computing and Applications
Cognitive Computation
Computational Statistics & Data Analysis
Information Science
Journal of Visual Communication and Image Representation

Conferences

Senior Program Committee of

IJCAI-2017

Organising Committee

Co-chair of Local Arrangement of DICTA-2017

Local Arrangement Chair of IJCAI-BOOM-2017

Program Committee of

ICTAI-2015, AAAI-2017, SDM-2017, ACPR-2017

Reviewer of

ICPR-2016

INVITED TALKS

Invited Talk, “Learning with Label Noise by Importance Reweighting”, China University of Geosciences, Dec 2016

Invited Talk, “Learning with Label Noise by Importance Reweighting”, Wuhan University, Dec 2016

PUBLISHED PAPERS

Google Citations: 400+; H-index: 10; Three papers are SCI highly-cited; Two papers are SCI hot papers

Journal papers

1. K. Ma, W. Liu, **T. Liu**, Z. Wang, and D. Tao, “dipIQ: Blind Image Quality Assessment by Learning-to-Rank Discriminable Image Pairs”, **IEEE T-IP**, accepted in May, 2017.
2. R. Wang, **T. Liu**, and D. Tao, “Multi-class Learning with Partially Corrupted Labels”, **IEEE T-NNLS**, accepted in April, 2017.
3. Y. Li, X. Tian, **T. Liu**, and D. Tao, “On Better Exploring and Exploiting Task Relationship in Multi-Task Learning: Joint Model and Feature Learning”, **IEEE T-NNLS**, accepted in March, 2017.
4. J. Gui*, **T. Liu***, Z. Sun, D. Tao, and T. Tan, “Fast Supervised Discrete Hashing”, **IEEE T-PAMI**, accepted in March, 2017. (*: equally contributed)
5. C. Gong, T. Liu, Y. Tang, J. Yang, J. Yang, and D. Tao, “A Regularization Approach for Instance-Based Superset Label Learning”, **IEEE T-CYB**, accepted in February 2017.
6. Jie Gui*, **T. Liu***, Z. Sun, D. Tao, and T. Tan, “Supervised Discrete Hashing with Relaxation”, **IEEE T-NNLS**, Accepted in November 2016.
7. **T. Liu**, M. Gong, and D. Tao, “Large Cone Non-negative Matrix Factorization”, **IEEE T-NNLS**, Accepted in May 2016.
8. **T. Liu**, D. Tao, M. Song, and S. J. Maybank, “Algorithm-Dependent Generalization Bounds for Multi-Task Learning”, **IEEE T-PAMI**, vol. 39, no. 2, pp. 227-241, February 2017.
9. Q. Liu, Y. Sun, C. Wang, **T. Liu**, and D. Tao, “Elastic Net Hypergraph Learning for Image Clustering and Semi-supervised Classification”, **IEEE T-IP**, vol. 26, no. 1, pp. 452-463, January 2017.
10. H. Liu, J. Wu, **T. Liu**, D. Tao, and Y. Fu, “Spectral Ensemble Clustering via Weighted K-means: Theoretical and Practical Evidence”, *IEEE Trans. Knowledge and Data Engineering (IEEE T-KDE)*, vol. 29, no. 5, pp. 1129-1143, May 2017. (IF: 2.476)
11. Y. Zhang, B. Du, L. Zhang, and **T. Liu**, “Joint Sparse Representation and Multitask Learning for Hyperspectral Target Detection”, *IEEE Trans. Geoscience and Remote Sensing (IEEE T-GRS)*, vol. 55, no. 2, pp. 894-906, February 2017. (IF: 3.360)
12. **T. Liu** and D. Tao, “Classification with Noisy Labels by Importance Reweighting”, *IEEE Trans. Pattern Analysis and Machine Intelligence (IEEE T-PAMI)*, vol. 38, no. 3, pp. 447-461, March 2016. (Impact Factor: 6.077, Ranked #1 in Computer Science-Artificial Intelligence; **ESI hot paper**)
13. **T. Liu**, D. Tao, and D. Xu, “Dimensionality-Dependent Generalization Bounds for k-Dimensional Coding Schemes”, *Neural Computation (NECO)*, vol. 28, pp. 2213-2249, 2016. (IF: 1.626)
14. **T. Liu** and D. Tao, “On the Performance of Manhattan Non-negative Matrix Factorization”, **IEEE T-NNLS**, vol. 28, no. 7, pp. 1851-1863, July 2016.
15. H. Xiong, **T. Liu**, and D. Tao, “Dual Diversified Dynamical Gaussian Process Latent Variable Model for Video Repair”, **IEEE T-IP**, vol. 25, no. 8, pp. 3626-3637, August 2016.
16. C. Xu, **T. Liu**, D. Tao, and C. Xu, “Local Rademacher Complexity for Multi-label Learning”, **IEEE T-IP**, vol. 25, no. 3, pp. 1495-1507, March 2016. (**ESI hot paper**)
17. J. Gui*, **T. Liu***, D. Tao, Z. Sun, and T. Tan, “Representative Vector Machines: A Unified Framework for Classical Classifiers”, *IEEE Trans. Cybernetics (IEEE T-CYB)*, vol. 46, no. 8, pp. 1877-1888, August 2016 (IF: 4.943)
18. X. Li, **T. Liu**, J. Deng, and D. Tao, “Video Face Editing Using Temporal-Spatial-Smooth Warping”, *ACM Trans. Intelligent Systems and Technology (ACM TIST)*, vol. 7, no. 3, pp. 32, 2016. (5-year IF: 9.15)

19. C. Gong, **T. Liu**, D. Tao, K. Fu, E. Tu, and J. Yang, “Deformed Graph Laplacian for Semi-supervised Learning”, *IEEE Trans. Neural Networks & Learning Systems (IEEE T-NNLS)*, vol. 26, no. 10, pp. 2261-2274, October, 2015. (IF: 4.854)
20. Y. Luo, **T. Liu**, D. Tao, and C. Xu, “Multi-view Matrix Completion for Multi-label Image Classification”, *IEEE T-IP*, vol. 24, no. 8, pp. 2355-2368, August 2015. (**ESI highly cited paper**)
21. Y. Lu, F. Xie, **T. Liu**, Z. Jiang, and D. Tao, “No Reference Quality Assessment for Multiply-distorted Images Based on an Improved Bag-of-words Model”, *IEEE Signal Process. Lett. (IEEE SPL)*, vol. 22, no. 10, pp. 1811-1815, October 2015. (IF: 1.661)
22. Y. Luo, **T. Liu**, D. Tao, and C. Xu, “Decomposition based Transfer Distance Metric Learning for Image Classification”, *IEEE Trans. Image Processing (IEEE T-IP)*, vol. 23, no. 9, pp. 3789-3801, September 2014. (IF: 3.735)

Conference papers

23. Y. Luo, Y. Wen, **T. Liu**, and D. Tao, “General Heterogeneous Transfer Distance Metric Learning via Knowledge Fragments Transfer” *Int’l Joint Conf. Artificial Intelligence (IJCAI)*, Accepted, Melbourne, Australia, August, 19-25, 2017
24. **T. Liu**, Q. Yang, and D. Tao, “Understanding How Feature Structure Transfers in Transfer Learning” *Int’l Joint Conf. Artificial Intelligence (IJCAI)*, Accepted, Melbourne, Australia, August, 19-25, 2017
25. **T. Liu**, G. Lugosi, G. Neu, and D. Tao, “Algorithmic Stability and Hypothesis Complexity”, *Int’l Conf. Machine Learning (ICML)*, Accepted, Sydney, Australia, August 6-11, 2017.
26. X. Yu, **T. Liu**, X. Wang, and D. Tao, “On Compressing Deep Models by Low Rank and Sparse Decomposition”, *IEEE Conf. Comput. Vis. Pattern Recognit. (CVPR)*, Accepted, Hawaii, July 2017.
27. M. Gong, K. Zhang, **T. Liu**, D. Tao, C. Glymour, and B. Scholkopf, “Domain Adaptation with Conditional Transferable Components”, *Int’l Conf. Machine Learning (ICML)*, pp. 2839-2848, New York, USA, June 19-24, 2016.
28. H. Xiong, **T. Liu**, and D. Tao, “Diversified Dynamical Gaussian Process Latent Variable Model for Video Repair”, the 30th *AAAI Conf. Artificial Intelligence (AAAI)*, Phoenix, Arizona, USA, February 12-17, 2016.
29. H. Liu, **T. Liu**, J. Wu, D. Tao, and Y. Fu, “Spectral Ensemble Clustering”, the 21st *ACM SIGKDD Conf. Knowledge Discovery and Data Mining (KDD)*, pp. 715-724, Sydney, Australia, August 10-13, 2015.
30. Y. Li, X. Tian, **T. Liu**, D. Tao, “Multi-Task Model and Feature Joint Learning”, *Int’l Joint Conf. Artificial Intelligence (IJCAI)*, pp. 3643-3649, Buenos Aires, Argentina, July 25-31, 2015.
31. M. Shao, S. Li, **T. Liu**, D. Tao, Y. Fu, and T. Huang, “Learning Relative Features Through Adaptive Pooling for Image Classification”, *IEEE Int’l Conf. Multimedia and Expo (ICME)*, pp. 1-6, Chengdu, China, July 14-18, 2014. (**Best paper award candidate**)
32. **T. Liu** and D. Tao, “On the Robustness and Generalization of Cauchy Regression”, *IEEE Int’l Conf. Information Science and Technology (ICIST)*, Shenzhen, China, April 100-106, 2014. (**Best paper award**)

Arxiv papers

33. K. Ma, H. Fu, **T. Liu**, Z. Wang, and D. Tao, “Local Blur Mapping: Exploiting High-Level Semantics by Deep Neural Networks”, arXiv:1612.01227, 2017.