Tongliang Liu

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ACADEMIC EMPLOMENT

Mar 17 - Present
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

EDUCATION

Aug 2012 - Apr 2016
PhD at University of Technology Sydney (UTS), Australia
Supervised by Prof Dacheng Tao

Oct 15 – Mar 16
Visiting PhD student at Pompeu Fabra University (UPF), Spain
Supervised by Prof Gábor Lugosi and Dr Gergely Neu

Aug 2008 - Jul 2012
BE at University of Science and Technology of China (USTC), China
Supervised by Prof Zengfu Wang

RESEARCH INTERESTS

Artifical Intelligence; Machine Learning; Statistical learning theory; Label noise learning; Computer vision; Neural networks

AWARDS AND HONORS

• Distinguished Paper Award Finalist (3 of 2540 submissions) – International Joint Conference on Artificial Intelligence (IJCAI) 2017
• 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 submissions) – IEEE International Conference on Multimedia & Expo (ICME) 2014
• Best Paper Award (1 of 311 submissions) – IEEE International Conference on Information Science & Tech (ICIST) 2014
• Outstanding Reviewer – Computational Statistics & Data Analysis, Feb 2014
• Outstanding Undergraduate Research Program Scholarship (with an remark) – USTC 2011

INVITED TALKS

1. Tutorial Talk, "Learning with Label Noise", The International Conference on Digital Image Computing: Techniques and Applications (DICTA), Sydney, Australia, Nov 2017
2. Invited Talk, "Learning with Label Noise by Importance Reweighting", Wuhan University and China University of Geosciences, China, Dec 26, 2016

SELECTED PUBLICATIONS

1. **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.
2. **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.
3. N. Guan*, **T. Liu***, Y. Zhang, D. Tao, and L. Davis, "Truncated Cauchy Non-Negative Matrix Factorization for Robust Subspace Learning", **IEEE T-PAMI**, accepted in November, 2017. (*: equally contributed)
4. J. Gui*, **T. Liu***, Z. Sun, D. Tao, and T. Tan, "Fast Supervised Discrete Hashing", **IEEE T-PAMI**, vol. 40, no. 2, pp. 490-496, February 2018.
5. **T. Liu**, M. Gong, and D. Tao, "Large Cone Non-Negative Matrix Factorization", IEEE Trans. Neural Networks & Learning Systems (IEEE T-NNLS), vol. 28, no. 9, pp. 2129-2141, 2017.
6. **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.
7. **T. Liu**, G. Lugosi, G. Neu, and D. Tao, "Algorithmic Stability and Hypothesis Complexity", Int'l Conf. Machine Learning (**ICML**), Sydney, Australia, August 6-11, 2017.
8. M. Gong, K. Zhang, **T. Liu**, D. Tao, C. Glymour, and B. Scholkopf, "Domain Adaptation with Conditional Transferable Components", **ICML**, pp. 2839-2848, New York, USA, June 19-24, 2016.
9. **T. Liu**, Q. Yang, and D. Tao, "Understanding How Feature Structure Transfers in Transfer Learning" Int'l Joint Conf. Artificial Intelligence (IJCAI), Melbourne, Australia, August, 19-25, 2017.
10. 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), Hawaii, July 2017.
11. 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.