

# 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

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## 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

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## RESEARCH INTERESTS

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

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## 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
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## 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
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## 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.