Jian Li

Ph.D student in Machine Learning – IIE, CAS – Beijing, China

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Education

○ **Institute of Information Engineering, Chinese Academy of Sciences**   **Beijing, China**
Ph.D. student, advisor: Prof. Weiping Wang and Associate Prof. Yong Liu   *Sep. 2015–Present*

○ **Northeastern University**   **Shenyang, China**
Undergraduate, Software College   *Sep. 2011–Jun. 2015*

Research Interests

My research interests mainly lie in **efficient large machine learning with theoretical guarantee**, but also kernel selection and graph-based semi-supervised learning. Indeed, my works focus on generalization analysis of those areas and building effective and scalable algorithmic tools for them, to channel theory and algorithms ino applications. Current works:

○ Algorithm: Design efficient algorithms for semi-supervised settings, by making using of random projection, gradient methods and distributed learning.

○ Theory: Statistical learning for large scale algorithms applying to semi-supervised settings by using popular measures, including the local Rademacher complexity and integral operator.

Publications

○ Multi-Class Learning using Unlabeled Samples:Theory and Algorithm. **Jian Li**, Yong Liu, Rong Yin, Weiping Wang. In Proceedings of the 28th International Joint Conference on Artificial Intelligence (**IJCAI 2019**). To appear.

○ Approximate Manifold Regularization: Scalable Algorithm and Generalization Analysis. **Jian Li**, Yong Liu, Rong Yin, Weiping Wang. In Proceedings of the 28th International Joint Conference on Artificial Intelligence (**IJCAI 2019**). To appear.

○ Multi-Class Learning: From Theory to Algorithm. **Jian Li**, Yong Liu, Rong Yin, Hua Zhang, Lizhong Ding, Weiping Wang. Advances in Neural Information Processing Systems 31 (**NeurPS 2018**).

○ Efficient kernel selection via spectral analysis. **Jian Li**, Yong Liu, Hailun Lin, Yinliang Yue, Weiping Wang. In Proceedings of the 26th International Joint Conference on Artificial Intelligence (**IJCAI 2017**).

Preprints

○ Distributed Learning with Random Features. **Jian Li**, Yong Liu, Weiping Wang. arXiv preprint arXiv:1906.03155, 2019. (Submitted to NeurIPS 2019).

○ Efficient Cross-Validation for Semi-Supervised Learning. Yong Liu, **Jian Li**, Guangjun Wu, Lizhong Ding, Weiping Wang. arXiv preprint arXiv:1902.04768, 2019.

○ Max-Diversity Distributed Learning: Theory and Algorithms. Yong Liu, **Jian Li**, Weiping Wang. arXiv preprint arXiv:1812.07738, 2018.

Expertise

- **Machine Learning Theory**: Statistical learning for kernel methods, approximate techniques for large scale learning and semi-supervised learning, including local Rademacher complexity and integral operator.
- **Machine Learning Algorithm**: Efficient approximate algorithms for large scale machine learning, including distributed learning, random projection and gradient methods.
- **Programming Languages**: Python, Matlab, LaTeX, C/C++, Java.
- **Languages**: English, Fluent. Chinese, Mother Tongue.

Honors and Awards

- **CAS Presidential Scholarship**, Chinese Academy of Sciences (CAS), 2019.
- **Merit Student**, University of Chinese Academy of Sciences, 2019.
- **National Scholarship for Doctoral students**, Ministry of Education of P.R.China, 2018.
- **IIE Presidential Scholarship**, Institute of Information Engineering, CAS, 2018.
- **Merit Student**, University of Chinese Academy of Sciences, 2018.
- **Laboratory Excellent Student Scholarship**, Institute of Information Engineering, CAS, 2018.
- **Laboratory Excellent Student Scholarship**, Institute of Information Engineering, CAS, 2017.