# Jian Li

*Ph.D. student in Statistical Machine Learning*

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## Education

Sep 2015 - Present **Ph.D. student**, *Institute of Information Engineering*, Chinese Academy of Sciences, Beijing.
Advisor: Prof. Weiping Wang and Associate Prof. Yong Liu. Large Scale Machine Learning.

Sep 2011 - Jun 2015 **Undergraduate**, *Software College*, Northeastern University, Shenyang, China.
A member of 2011 (English) International Class student (30/324). Software Engineering.

## 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 projections, 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. To appear.
  **Jian Li**, Yong Liu, Rong Yin, Weiping Wang.
  In Proceedings of the 28th International Joint Conference on Artificial Intelligence (**IJCAI 2019**).
- Approximate Manifold Regularization: Scalable Algorithm and Generalization Analysis. To appear.
  **Jian Li**, Yong Liu, Rong Yin, Weiping Wang.
  In Proceedings of the 28th International Joint Conference on Artificial Intelligence (**IJCAI 2019**).
- 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 (**NeurIPS 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, including local Rademacher complexity and integral operator.
  - Statistical learning for approximate techniques for large scale machine learning.
  - Statistical learning for graph-based semi-supervised learning.
- **Machine Learning Algorithm** Computationally-efficient optimization algorithms for large scale learning
  - Distributed learning.
  - Random projections, including random features, Nyström methods and structured projections.
  - 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.