

Contact Information	Nanjing University, Xianlin Campus Mailbox 603 163 Xianlin Avenue, Qixia District Nanjing 210023, China	<i>Phone:</i> +86-25-89680949 <i>E-mail:</i> zlj@nju.edu.cn <i>WWW:</i> <a href="http://ai.nju.edu.cn/zlj">http://ai.nju.edu.cn/zlj</a>
Research Interests	Machine Learning, Optimization	
Academic Appointments	<p><b>Professor</b> Dec., 2020 { present  <b>Research Professor</b> Dec., 2019 { Dec., 2020</p> <p style="padding-left: 40px;">School of Artificial Intelligence, Nanjing University</p> <p><b>Associate Professor</b> Apr., 2014 { Dec., 2019</p> <p style="padding-left: 40px;">Department of Computer Science and Technology, Nanjing University</p> <p><b>Postdoctoral Researcher</b> Aug., 2012 { Apr., 2014</p> <p style="padding-left: 40px;">Department of Computer Science and Engineering, Michigan State University</p> <ul style="list-style-type: none"> <li>• Advisor: Prof. Rong Jin</li> </ul>	
Education	<p><b>Zhejiang University</b>, Hangzhou, China</p> <p>Ph.D., Computer Science and Technology, Sep., 2007 { Jun., 2012</p> <ul style="list-style-type: none"> <li>• Advisor: Prof. Chun Chen</li> </ul> <p>B.E., Software Engineering, Sep., 2003 { Jun., 2007</p> <p><b>Michigan State University</b>, East Lansing, USA</p> <p>Visiting Student, Department of Computer Science and Engineering, Jun., 2011 { Dec., 2011</p> <ul style="list-style-type: none"> <li>• Advisor: Prof. Rong Jin</li> </ul>	
Honors and Awards	<ul style="list-style-type: none"> <li>• 2021, NSFC Excellent Young Scientists Fund</li> <li>• 2019, Microsoft Research Asia Collaborative Research 2019 Grant Award</li> <li>• 2018, DAMO Academy Young Fellow</li> <li>• 2017, Young Elite Scientist Sponsorship Program by CAST</li> <li>• 2016, Young Talent Development Program of the CCF</li> <li>• 2012, AAAI-12 Outstanding Paper Award</li> <li>• 2011, Chu Kochen Award (Highest Honour of Zhejiang University)</li> <li>• 2010, ACM Multimedia 2010 Best Paper Award Runner-up</li> <li>• 2010, Scholarship Award for Excellent Doctoral Student Granted by Ministry of Education</li> <li>• 2007, 2012, Excellent Graduate of Zhejiang Province</li> <li>• 2007, 2012, Excellent Graduate of Zhejiang University</li> </ul>	
Professional Service	<p><b>Editorial Boards</b></p> <ul style="list-style-type: none"> <li>• Action Editor, <i>Transactions on Machine Learning Research</i>, Since Dec., 2021</li> <li>• Action Editor, <i>Machine Learning</i>, Since Jun., 2021</li> <li>• Associate Editor, <i>Neurocomputing</i>, Since Mar., 2021</li> </ul>	

- Topic Editor, *Remote Sensing*, Feb., 2021 { Aug., 2021
- Editorial Board Reviewer, *Journal of Machine Learning Research*, Since Jun., 2020

#### Area Chair

- The 41st International Conference on Machine Learning (ICML 2024)
- The 40th International Conference on Machine Learning (ICML 2023)
- The 39th International Conference on Machine Learning (ICML 2022)
- The 12th International Conference on Learning Representations (ICLR 2024)
- The 37th Annual Conference on Neural Information Processing Systems (NeurIPS 2023)
- The 36th Annual Conference on Neural Information Processing Systems (NeurIPS 2022)
- The 35th Annual Conference on Neural Information Processing Systems (NeurIPS 2021)
- The 30th International Joint Conference on Artificial Intelligence (IJCAI 2021)
- The 26th International Joint Conference on Artificial Intelligence (IJCAI 2017)
- The 3rd Chinese Conference on Pattern Recognition and Computer Vision (PRCV 2020)
- The CAAI International Conference on Artificial Intelligence(CICAI 2023)
- The CAAI International Conference on Artificial Intelligence(CICAI 2022)
- The CAAI International Conference on Artificial Intelligence (CICAI 2021)

#### Senior Program Committee Member

- The 33rd International Joint Conference on Artificial Intelligence (IJCAI 2024)
- The 31st International Joint Conference on Artificial Intelligence (IJCAI 2022)
- The 34th AAAI Conference on Artificial Intelligence (AAAI 2020)
- The 33rd AAAI Conference on Artificial Intelligence (AAAI 2019)
- The 29th International Conference on Artificial Intelligence (IJCAI 2020)
- The 28th International Conference on Artificial Intelligence (IJCAI 2019)
- The 27th International Conference on Artificial Intelligence (IJCAI 2018)

#### Program Committee Member

- The 38th International Conference on Machine Learning (ICML 2021)
- The 37th International Conference on Machine Learning (ICML 2020)
- The 36th International Conference on Machine Learning (ICML 2019)
- The 35th International Conference on Machine Learning (ICML 2018)
- The 33rd International Conference on Machine Learning (ICML 2016)
- The 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2020)
- The 25th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2019)
- The 24th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2018)
- The 22nd ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2016)
- The 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2015)
- The 36th AAAI Conference on Artificial Intelligence (AAAI 2022)
- The 35th AAAI Conference on Artificial Intelligence (AAAI 2021)
- The 32nd AAAI Conference on Artificial Intelligence (AAAI 2018)
- The 31st AAAI Conference on Artificial Intelligence (AAAI 2017)
- The 29th AAAI Conference on Artificial Intelligence (AAAI 2015)
- The 26th AAAI Conference on Artificial Intelligence (AAAI 2012)
- The 25th International Joint Conference on Artificial Intelligence (IJCAI 2016)

- The 24th International Joint Conference on Artificial Intelligence (IJCAI 2015)
- The 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013)
- The 23rd ACM International Conference on Multimedia (MM 2015)
- The 22nd ACM International Conference on Multimedia (MM 2014)

#### **Reviewer**

- The 34th Annual Conference on Neural Information Processing Systems (NeurIPS 2020)
- The 33rd Annual Conference on Neural Information Processing Systems (NeurIPS 2019)
- The 32nd Annual Conference on Neural Information Processing Systems (NeurIPS 2018)
- The 31st Annual Conference on Neural Information Processing Systems (NIPS 2017)
- The 30th Annual Conference on Neural Information Processing Systems (NIPS 2016)
- The 29th Annual Conference on Neural Information Processing Systems (NIPS 2015)
- The 28th Annual Conference on Neural Information Processing Systems (NIPS 2014)
- The 27th Annual Conference on Neural Information Processing Systems (NIPS 2013)
- The 21st International Conference on Artificial Intelligence and Statistics (AISTATS 2018)
- The 20th International Conference on Artificial Intelligence and Statistics (AISTATS 2017)
- The 19th International Conference on Artificial Intelligence and Statistics (AISTATS 2016)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- IEEE Transactions on Multimedia (TMM)
- Transactions on Intelligent Systems and Technology (TIST)
- IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics (TSMCB)
- IEEE Transactions on Systems, Man, and Cybernetics, Part C: Applications and Reviews (TSMCC)
- IEEE Transactions on Cybernetics
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- IEEE Transactions on Big Data (TBD)
- ACM Transactions on Knowledge Discovery from Data (TKDD)
- Machine Learning, Pattern Recognition
- Information Sciences, Neural Networks
- Neurocomputing, Pattern Recognition Letters
- Signal Processing, Knowledge-Based Systems
- Journal of Scientific Computing (JOMP)
- Journal of Selected Topics in Signal Processing (JSTSP)
- Journal of Computer Science and Technology (JCST)
- SCIENCE CHINA Information Sciences

#### **Program Co-Chair**

- The 12th Vision and Learning Seminar (VALSE 2022)
- The 19th China Symposium on Machine Learning and Applications (MLA 2021)

#### **Workshop Co-Chair**

- The 11th Vision and Learning Seminar (VALSE 2021)
- The 9th Vision and Learning Seminar (VALSE 2019)

#### **APR Co-Chair**

- The 10th Vision and Learning Seminar (VALSE 2020)

### Publications Co-Chair

- The 9th China Conference on Data Mining (CCDM 2022)

### Organizing Committee Member

- The 16th China Symposium on Machine Learning and Applications (MLA 2018)

### Book

1. Zhi-Hua Zhou, Wei Wang, Wei Gao, and **Lijun Zhang**. Introduction to the Theory of Machine Learning (In Chinese). China Machine Press, 2020.

### Conference Publications

1. **Lijun Zhang**, Peng Zhao, Zhen-Hua Zhuang, Tianbao Yang, and Zhi-Hua Zhou. Stochastic Approximation Approaches to Group Distributionally Robust Optimization. In *Advances in Neural Information Processing Systems 36 (NeurIPS)*, to appear, 2023.
2. Bo Xue, Yimu Wang, Yuanyu Wan, Jinfeng Yi, and **Lijun Zhang**. Efficient Algorithms for Generalized Linear Bandits with Heavy-tailed Rewards. In *Advances in Neural Information Processing Systems 36 (NeurIPS)*, to appear, 2023.
3. Zhenyao Zhang, and **Lijun Zhang**. NeCa: Network Calibration for Class Incremental Learning. In *Pattern Recognition (ACPR)*, pp. 385{399, 2023.
4. Yuanyu Wan, **Lijun Zhang**, and Mingli Song. Improved Dynamic Regret for Online Frank-Wolfe. In *Proceedings of the 36th Annual Conference on Learning Theory (COLT)*, pp. 3304{3327, 2023.
5. Yutian Gou, Jinfeng Yi, and **Lijun Zhang**. Stochastic Graphical Bandits with Heavy-Tailed Rewards. In *Proceedings of the 39th Conference on Uncertainty in Artificial Intelligence (UAI)*, pp. 734{744, 2023.
6. Sijia Chen, Wei-Wei Tu, Peng Zhao, and **Lijun Zhang**. Optimistic Online Mirror Descent for Bridging Stochastic and Adversarial Online Convex Optimization. In *Proceedings of the 40th International Conference on Machine Learning (ICML)*, pp. 5002{5035, 2023.
7. Wei Jiang, Jiayu Qin, Lingyu Wu, Changyou Chen, Tianbao Yang, and **Lijun Zhang**. Learning Unnormalized Statistical Models via Compositional Optimization. In *Proceedings of the 40th International Conference on Machine Learning (ICML)*, pp. 15105{15124, 2023.
8. Zi-Hao Qiu, Quanqi Hu, Zhuoning Yuan, Denny Zhou, **Lijun Zhang**, and Tianbao Yang. Not All Semantics are Created Equal: Contrastive Self-supervised Learning with Automatic Temperature Individualization. In *Proceedings of the 40th International Conference on Machine Learning (ICML)*, pp. 28389{28421, 2023.
9. Quanqi Hu, Zi-Hao Qiu, Zhishuai Guo, **Lijun Zhang**, and Tianbao Yang. Blockwise Stochastic Variance-Reduced Methods with Parallel Speedup for Multi-Block Bilevel Optimization. In *Proceedings of the 40th International Conference on Machine Learning (ICML)*, pp. 13550{13583, 2023.
10. Yibo Wang, Yuanyu Wan, Shimao Zhang, and **Lijun Zhang**. Distributed Projection-free Online Learning for Smooth and Convex Losses. In *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 10226{10234, 2023.
11. **Lijun Zhang**, Wei Jiang, Jinfeng Yi, and Tianbao Yang. Smoothed Online Convex Optimization Based on Discounted-Normal-Predictor. In *Advances in Neural Information Processing Systems 35 (NeurIPS)*, pp. 4928{4942, 2022.

12. Yuanyu Wan, Wei-Wei Tu, and **Lijun Zhang**. Online Frank-Wolfe with Arbitrary Delays. In *Advances in Neural Information Processing Systems 35 (NeurIPS)*, pp. 19703{19715, 2022.
13. Wei Jiang, Gang Li, Yibo Wang, **Lijun Zhang**, and Tianbao Yang. Multi-block-Single-probe Variance Reduced Estimator for Coupled Compositional Optimization. In *Advances in Neural Information Processing Systems 35 (NeurIPS)*, pp. 32499{32511, 2022.
14. Peng Zhao, Yan-Feng Xie, **Lijun Zhang**, and Zhi-Hua Zhou. Efficient Methods for Non-stationary Online Learning. In *Advances in Neural Information Processing Systems 35 (NeurIPS)*, pp. 11573{11585, 2022.
15. Shiyin Lu, Yuan Miao, Ping Yang, Yao Hu, and **Lijun Zhang**. Non-stationary Dueling Bandits for Online Learning to Rank. In *Proceedings of the 6th APWeb and WAIM Joint International Conference on Web and Big Data (APWeb-WAIM)*, Part II, pp. 166{174, 2022.
16. **Lijun Zhang**, Guanghui Wang, Jinfeng Yi, and Tianbao Yang. A Simple yet Universal Strategy for Online Convex Optimization. In *Proceedings of the 39th International Conference on Machine Learning (ICML)*, pp. 26605{26623, 2022.
17. Wei Jiang, Bokun Wang, Yibo Wang, **Lijun Zhang**, and Tianbao Yang. Optimal Algorithms for Stochastic Multi-Level Compositional Optimization. In *Proceedings of the 39th International Conference on Machine Learning (ICML)*, pp. 10195{10216, 2022.
18. Zi-Hao Qiu, Quanqi Hu, Yongjian Zhong, **Lijun Zhang**, and Tianbao Yang. Large-scale Stochastic Optimization of NDCG Surrogates for Deep Learning with Provable Convergence. In *Proceedings of the 39th International Conference on Machine Learning (ICML)*, pp. 18122{18152, 2022.
19. Zhuoning Yuan, Yuexin Wu, Zi-Hao Qiu, Xianzhi Du, **Lijun Zhang**, Denny Zhou, and Tianbao Yang. Provable Stochastic Optimization for Global Contrastive Learning: Small Batch Does Not Harm Performance. In *Proceedings of the 39th International Conference on Machine Learning (ICML)*, pp. 25760{25782, 2022.
20. Yingchun Jian, Jinfeng Yi, and **Lijun Zhang**. Adaptive Feature Generation for Online Continual Learning from Imbalanced Data. In *Advances in Knowledge Discovery and Data Mining (PAKDD)*, pp. 276{289, 2022.
21. Guanghui Wang, Ming Yang, **Lijun Zhang**, and Tianbao Yang. Momentum Accelerates the Convergence of Stochastic AUPRC Maximization. In *Proceedings of The 25th International Conference on Artificial Intelligence and Statistics (AISTATS)*, pp. 3753{3771, 2022.
22. Shiyin Lu, Yu-Hang Zhou, Jing-Cheng Shi, Wenya Zhu, Qingtao Yu, Qing-Guo Chen, Qing Da, and **Lijun Zhang**. Non-stationary Continuum-armed Bandits for Online Hyperparameter Optimization. In *Proceedings of the 15th ACM International Conference on Web Search and Data Mining (WSDM)*, pp. 618{627, 2022.
23. **Lijun Zhang**, Wei Jiang, Shiyin Lu, and Tianbao Yang. Revisiting Smoothed Online Learning. In *Advances in Neural Information Processing Systems 34 (NeurIPS)*, pp. 13599{13612, 2021.
24. **Lijun Zhang**, Guanghui Wang, Wei-Wei Tu, Wei Jiang, and Zhi-Hua Zhou. Dual Adaptivity: A Universal Algorithm for Minimizing the Adaptive Regret of Convex Functions. In *Advances in Neural Information Processing Systems 34 (NeurIPS)*, pp. 24968{24980, 2021.

25. Guanghui Wang, Yuanyu Wan, Tianbao Yang, and **Lijun Zhang**. Online Convex Optimization with Continuous Switching Constraint. In *Advances in Neural Information Processing Systems 34 (NeurIPS)*, pp. 28636{28647, 2021.
26. Zi-Hao Qiu and Ying-Chun Jian and Qing-Guo Chen, and **Lijun Zhang**. Learning to Augment Imbalanced Data for Re-Ranking Models. In *Proceedings of the 30th ACM International Conference on Information and Knowledge Management (CIKM)*, pp. 1478{1487, 2021.
27. Yimu Wang, Bo Xue, Quan Cheng, Yuhui Chen, and **Lijun Zhang**. Deep Unified Cross-Modality Hashing by Pairwise Data Alignment. In *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 1129{1135, 2021.
28. Peng Zhao, and **Lijun Zhang**. Improved Analysis for Dynamic Regret of Strongly Convex and Smooth Functions. In *Proceedings of the 3rd Conference on Learning for Dynamics and Control (L4DC)*, pp. 48{59, 2021.
29. Shiyin Lu, Guanghui Wang, and **Lijun Zhang**. Stochastic Graphical Bandits with Adversarial Corruptions. In *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 8749{8757, 2021.
30. Shiyin Lu, Yao Hu, and **Lijun Zhang**. Stochastic Bandits with Graph Feedback in Non-Stationary Environments. In *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 8758{8766, 2021.
31. Yuanyu Wan, and **Lijun Zhang**. Approximate Multiplication of Sparse Matrices with Limited Space. In *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 10058{10066, 2021.
32. Yuanyu Wan, and **Lijun Zhang**. Projection-free Online Learning over Strongly Convex Sets. In *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 10067{10075, 2021.
33. Yuanyu Wan, Bo Xue, and **Lijun Zhang**. Projection-Free Online Learning in Dynamic Environments. In *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 10076{10084, 2021.
34. Peng Zhao, Yu-Jie Zhang, **Lijun Zhang**, and Zhi-Hua Zhou. Dynamic Regret of Convex and Smooth Functions. In *Advances in Neural Information Processing Systems 33 (NeurIPS)*, pp. 12510{12520, 2020.
35. Pengcheng Li, Runze Li, Qing Da, An-Xiang Zeng, and **Lijun Zhang**. Improving Multi-Scenario Learning to Rank in E-Commerce by Exploiting Task Relationships in the Label Space. In *Proceedings of the 29th ACM International Conference on Information and Knowledge Management (CIKM)*, pp. 2605{2612, 2020.
36. Yimu Wang, Shiyin Lu, and **Lijun Zhang**. Searching Privately by Imperceptible Lying: A Novel Private Hashing Method with Differential Privacy. In *Proceedings of the 28th ACM International Conference on Multimedia (ACM Multimedia)*, pp. 2700{2709, 2020.
37. Yimu Wang, Xiu-Shen Wei, Bo Xue, and **Lijun Zhang**. Piecewise Hashing: A Deep Hashing Method for Large-Scale Fine-Grained Search. In *Proceedings of the 3rd Chinese Conference on Pattern Recognition and Computer Vision (PRCV)*, pp. 432{444, 2020.

38. Yuanyu Wan, Wei-Wei Tu, and **Lijun Zhang**. Projection-free Distributed Online Convex Optimization with  $O(\sqrt{T})$  Communication Complexity. In *Proceedings of the 37th International Conference on Machine Learning (ICML)*, pp. 9818{9828, 2020.
39. Yan Yan, Yi Xu, **Lijun Zhang**

52. **Lijun Zhang**, Tie-Yan Liu, and Zhi-Hua Zhou. Adaptive Regret of Convex and Smooth Functions. In *Proceedings of the 36th International Conference on Machine Learning (ICML)*, pp. 7414{7423, 2019.
53. Shiyin Lu, Guanghui Wang, Yao Hu, and **Lijun Zhang**. Optimal Algorithms for Lipschitz Bandits with Heavy-tailed Rewards. In *Proceedings of the 36th International Conference on Machine Learning (ICML)*, pp. 4154{4163, 2019.
54. **Lijun Zhang**, and Zhi-Hua Zhou.  $\ell_1$ -regression with Heavy-tailed Distributions. In *Advances in Neural Information Processing Systems 31 (NeurIPS)*, pp. 1076{1086, 2018.
55. **Lijun Zhang**, Shiyin Lu, and Zhi-Hua Zhou. Adaptive Online Learning in Dynamic Environments. In *Advances in Neural Information Processing Systems 31 (NeurIPS)*, pp. 1323{1333, 2018.
56. Mingrui Liu, Xiaoxuan Zhang, **Lijun Zhang**, Rong Jin, and Tianbao Yang. Fast Rates of ERM and Stochastic Approximation: Adaptive to Error Bound Conditions. In *Advances in Neural Information Processing Systems 31 (NeurIPS)*, pp. 4678{4689, 2018.
57. Pengcheng Li, Jinfeng Yi, and **Lijun Zhang**. Query-Efficient Black-Box Attack by Active Learning. In *Proceedings of the 18th IEEE International Conference on Data Mining (ICDM)*, pp. 1200{1205, 2018.
58. **Lijun Zhang**, Tianbao Yang, Rong Jin, and Zhi-Hua Zhou. Dynamic Regret of Strongly Adaptive Methods. In *Proceedings of the 35th International Conference on Machine Learning (ICML)*, pp. 5882{5891, 2018.
59. Guanghui Wang, Dakuan Zhao, and **Lijun Zhang**. Minimizing Adaptive Regret with One Gradient per Iteration. In *Proceedings of the 27th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 2762{2768, 2018.
60. Yuanyu Wan, Nan Wei, and **Lijun Zhang**. Efficient Adaptive Online Learning via Frequent Directions. In *Proceedings of the 27th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 2748{2754, 2018.
61. Yuanyu Wan, and **Lijun Zhang**. Accelerating Adaptive Online Learning by Matrix Approximation. In *Advances in Knowledge Discovery and Data Mining (PAKDD)*, pp. 405{417, 2018.
62. Tianbao Yang, Zhe Li, and **Lijun Zhang**. A Simple Analysis for Exp-concave Empirical Minimization with Arbitrary Convex Regularizer. In *Proceedings of the 21st International Conference on Artificial Intelligence and Statistics (AISTATS)*, pp. 445{453, 2018.
63. Haipeng Dai, Ke Sun, Alex X. Liu, **Lijun Zhang**, Jiaqi Zheng, and Guihai Chen. Charging Task Scheduling for Directional Wireless Charger Networks. In *Proceedings of the 47th International Conference on Parallel Processing (ICPP)*, 2018.
64. **Lijun Zhang**, Tianbao Yang, Jinfeng Yi, Rong Jin, and Zhi-Hua Zhou. Improved Dynamic Regret for Non-degenerate Functions. In *Advance in Neural Information Processing Systems 30 (NIPS)*, pp. 732{741, 2017.
65. Bo-Jian Hou, **Lijun Zhang**, and Zhi-Hua Zhou. Learning with Feature Evolvable Streams. In *Advance in Neural Information Processing Systems 30 (NIPS)*, pp. 1416{1426, 2017.



66. Jinfeng Yi, Cho-Jui Hsieh, Kush R. Varshney, **Lijun Zhang**, and Yao Li. Scalable Demand-Aware Recommendation. In *Advance in Neural Information Processing Systems 30 (NIPS)*, pp. 2409{2418, 2017.
67. **Lijun Zhang**, Tianbao Yang, and Rong Jin. Empirical Risk Minimization for Stochastic Convex Optimization:  $O(1/n)$ - and  $O(1/n^2)$ -type of Risk Bounds. In *Proceedings of the 30th Conference on Learning Theory (COLT)*, pp. 1954{1979, 2017.
68. Tianbao Yang, Qihang Lin, and **Lijun Zhang**. A Richer Theory of Convex Constrained Optimization with Reduced Projections and Improved Rates. In *Proceedings of the 34th International Conference on Machine Learning (ICML)*, pp. 3901{3910, 2017.
69. Xinyu Yan, **Lijun Zhang**, and Wu-Jun Li. Semi-Supervised Deep Hashing with a Bipartite Graph. In *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 3238{3244, 2017.
70. Bo-Jian Hou, **Lijun Zhang**, and Zhi-Hua Zhou. Storage Fit Learning with Unlabeled Data. In *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 1844{1850, 2017.
71. Yichi Xiao, Zhe Li, Tianbao Yang, and **Lijun Zhang**. SVD-free Convex-Concave Approaches for Nuclear Norm Regularization. In *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 3126{3132, 2017.
72. Jie Zhang, and **Lijun Zhang**. Efficient Stochastic Optimization for Low-Rank Distance Metric Learning. In *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI)*, pp. 933{939, 2017.
73. Zhe Li, Tianbao Yang, **Lijun Zhang**, and Rong Jin. A Two-stage Approach for Learning a Sparse Model with Sharp Excess Risk Analysis. In *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI)*, pp. 2224{2230, 2017.
74. Yi Xu, Haiqin Yang, **Lijun Zhang**, and Tianbao Yang. Efficient Non-oblivious Randomized Reduction for Risk Minimization with Improved Excess Risk Guarantee. In *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI)*, pp. 2796{2802, 2017.
75. **Lijun Zhang**, Tianbao Yang, Rong Jin, and Zhi-Hua Zhou. Sparse Learning for Large-scale and High-dimensional Data: A Randomized Convex-concave Optimization Approach. In *Proceedings of the 27th International Conference on Algorithmic Learning Theory (ALT)*, pp. 83{97, 2016.
76. Jianhui Chen, Tianbao Yang, Qihang Lin, **Lijun Zhang**, and Yi Chang. Optimal Stochastic Strongly Convex Optimization with a Logarithmic Number of Projections. In *Proceedings of the 32nd Conference on Uncertainty in Artificial Intelligence (UAI)*, pp. 122{131, 2016.
77. **Lijun Zhang**, Tianbao Yang, Rong Jin, Yichi Xiao, and Zhi-Hua Zhou. Online Stochastic Linear Optimization under One-bit Feedback. In *Proceedings of the 33rd International Conference on Machine Learning (ICML)*, pp. 392{401, 2016.
78. Tianbao Yang, **Lijun Zhang**, Rong Jin, and Jinfeng Yi. Tracking Slowly Moving Clairvoyant: Optimal Dynamic Regret of Online Learning with True and Noisy Gradient. In *Proceedings of the 33rd International Conference on Machine Learning (ICML)*, pp. 449{457, 2016.

79. **Lijun Zhang**, Tianbao Yang, Jinfeng Yi, Rong Jin, and Zhi-Hua Zhou. Stochastic Optimization for Kernel PCA. In *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 2316{2322, 2016.
80. Weizhong Zhang, **Lijun Zhang**, Rong Jin, Deng Cai, and Xiaofei He. Accelerated Sparse Linear Regression via Random Projection. In *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 2337{2343, 2016.
81. Zhe Li, Tianbao Yang, **Lijun Zhang**, and Rong Jin. Fast and Accurate Reduced Nystrom Based Kernel SVM. In *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 1830{1836, 2016.
82. Jinfeng Yi, **Lijun Zhang**, Tianbao Yang, Wei Liu, and Jun Wang. An Efficient Semi-Supervised Clustering Algorithm with Sequential Constraints. In *Proceedings of the 21th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, pp. 1405{1414, 2015.
83. Mehrdad Mahdavi, **Lijun Zhang**, and Rong Jin. Lower and Upper Bounds on the Generalization of Stochastic Exponentially Concave Optimization. In *Proceedings of the 28th Conference on Learning Theory (COLT)*, pp. 1305{1320, 2015.
84. Tianbao Yang, **Lijun Zhang**, Rong Jin, and Shenghuo Zhu. An Explicit Sampling Dependent Spectral Error Bound for Column Subset Selection. In *Proceedings of the 32nd International Conference on Machine Learning (ICML)*, pp. 135{143, 2015.
85. Tianbao Yang, **Lijun Zhang**, Rong Jin, and Shenghuo Zhu. Theory of Dual-Sparse Regularized Randomized Reduction. In *Proceedings of the 32nd International Conference on Machine Learning (ICML)*, pp. 305{314, 2015.
86. **Lijun Zhang**, Tianbao Yang, Rong Jin, and Zhi-Hua Zhou. A Simple Homotopy Algorithm for Compressive Sensing. In *Proceedings of the 18th International Conference on Artificial Intelligence and Statistics (AISTATS)*, pp. 1116{1124, 2015.
87. **Lijun Zhang**, Tianbao Yang, Rong Jin, and Zhi-Hua Zhou. Online Bandit Learning for a Special Class of Non-convex Losses. In *Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 3158{3164, 2015.
88. **Lijun Zhang**, Jinfeng Yi, and Rong Jin. Efficient Algorithms for Robust One-bit Compressive Sensing. In *Proceedings of the 31st International Conference on Machine Learning (ICML)*, pp. 820{828, 2014.
89. Jinfeng Yi, **Lijun Zhang**, Jun Wang, Rong Jin, and Anil K. Jain. A Single-Pass Algorithm for Efficiently Recovering Sparse Cluster Centers of High-dimensional Data. In *Proceedings of the 31st International Conference on Machine Learning (ICML)*, pp. 658{666, 2014.
90. Weizhong Zhang, **Lijun Zhang**, Yao Hu, Rong Jin, Deng Cai, and Xiaofei He. Sparse Learning for Stochastic Composite Optimization. In *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 893{899, 2014.
91. **Lijun Zhang**, Mehrdad Mahdavi, and Rong Jin. Linear Convergence With Condition Number Independent Access of Full Gradients. In *Advances in Neural Information Processing Systems 26 (NIPS)*, pp. 980{988, 2013.
92. Mehrdad Mahdavi, **Lijun Zhang**, and Rong Jin. Mixed Optimization for Smooth Functions. In *Advances in Neural Information Processing Systems 26 (NIPS)*, pp. 674{682, 2013.

93. **Lijun Zhang**, Mehrdad Mahdavi, Rong Jin, Tianbao Yang, and Shenghuo Zhu. Recovering the Optimal Solution by Dual Random Projection. In *Proceedings of the 26th Annual Conference on Learning Theory (COLT)*, pp. 135{157, 2013.
94. **Lijun Zhang**, Jinfeng Yi, Rong Jin, Ming Lin, and Xiaofei He. Online Kernel Learning with a Near Optimal Sparsity Bound. In *Proceedings of the 30th International Conference on Machine Learning (ICML)*, pp. 621{629, 2013.
95. **Lijun Zhang**, Tianbao Yang, Rong Jin, and Xiaofei He.  $O(\log T)$  Projections for Stochastic Optimization of Smooth and Strongly Convex Functions. In *Proceedings of the 30th International Conference on Machine Learning (ICML)*, pp. 1121{1129, 2013.
96. Jinfeng Yi, **Lijun Zhang**, Rong Jin, Qi Qian, and Anil K. Jain. Semi-Supervised Clustering by Input Pattern Assisted Pairwise Similarity Matrix Completion. In *Proceedings of the 30th International Conference on Machine Learning (ICML)*, pp. 1400{1408, 2013.
97. Tianbao Yang, Mehrdad Mahdavi, Rong Jin, **Lijun Zhang**, and Yang Zhou. Multiple Kernel Learning from Noisy Labels by Stochastic Programming . In *Proceedings of the 29th International Conference on Machine Learning (ICML)*, pp. 233{240, 2012.
98. **Lijun Zhang**, Rong Jin, Chun Chen, Jiajun Bu, and Xiaofei He. Efficient Online Learning for Large-Scale Sparse Kernel Logistic Regression. In *Proceedings of the 26th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 1219{1225, 2012.
99. Zhanying He, Chun Chen, Jiajun Bu, Can Wang, **Lijun Zhang**, Deng Cai, and Xiaofei He. Document Summarization Based on Data Reconstruction. In *Proceedings of the 26th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 620{626, 2012. (Outstanding Paper Award)
100. **Lijun Zhang**, Chun Chen, Jiajun Bu, Zhengguang Chen, Shulong Tan, and Xiaofei He. Discriminative Codeword Selection for Image Representation. In *Proceedings of the 18th ACM International Conference on Multimedia (ACM Multimedia)*, pp. 173{182, 2010.
101. Jiajun Bu, Shulong Tan, Chun Chen, Can Wang, Hao Wu, **Lijun Zhang**, and Xiaofei He. Music Recommendation by Unified Hypergraph: Combining Social Media Information and Music Content. In *Proceedings of the 18th ACM International Conference on Multimedia (ACM Multimedia)*, pp. 391{400, 2010.
102. Chun Chen, Zhengguang Chen, Jiajun Bu, Can Wang, **Lijun Zhang**, and Cheng Zhang. G-Optimal Design with Laplacian Regularization. In *Proceedings of the 24th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 413{418, 2010.
103. Hao Wu, Jiajun Bu, Chun Chen, Can Wang, Guang Qiu, **Lijun Zhang**, and Jianfeng Shen. Modeling Dynamic Multi-Topic Discussions in Online Forums. In *Proceedings of the 24th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 1455{1460, 2010.
104. **Lijun Zhang**, Chun Chen, Wei Chen, Jiajun Bu, Deng Cai, and Xiaofei He. Convex Experimental Design Using Manifold Structure for Image Retrieval. In *Proceedings of the 17th ACM International Conference on Multimedia (ACM Multimedia)*, pp. 45{53, 2009.

Journal  
Publications

1. Bo-Jian Hou, **Lijun Zhang**, and Zhi-Hua Zhou. Prediction With Unpredictable Feature Evolution. *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 33(10): 5706{5715, 2022.

2. Yuanyu Wan, and **Lijun Zhang**. Efficient Adaptive Online Learning via Frequent Directions. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 44(10): 6910{6923, 2022.
3. Yuanyu Wan, Wei-Wei Tu, and **Lijun Zhang**. Strongly Adaptive Online Learning over Partial Intervals. *Science China Information Sciences (SCIS)*, 65(10): 202101, 2022.
4. Yuanyu Wan, Guanghui Wang, Wei-Wei Tu, and **Lijun Zhang**. Projection-free Distributed Online Learning with Sublinear Communication Complexity. *Journal of Machine Learning Research (JMLR)*, 23(172): 1{53, 2022.
5. Yuanyu Wan, Wei-Wei Tu, and **Lijun Zhang**. Online Strongly Convex Optimization with Unknown Delays. *Machine Learning*, 111(3): 871{893, 2022.
6. Haipeng Dai, Ke Sun, Alex X. Liu, **Lijun Zhang**, Jiaqi Zheng, and Guihai Chen. Charging Task Scheduling for Directional Wireless Charger Networks. *IEEE Transactions on Mobile Computing (TMC)*, 20(11): 3163{3180, 2021.
7. Peng Zhao, Guanghui Wang, **Lijun Zhang**, and Zhi-Hua Zhou. Bandit Convex Optimization in Non-stationary Environments. *Journal of Machine Learning Research (JMLR)*, 22(125): 1{45, 2021.
8. Bo-Jian Hou, **Lijun Zhang**, and Zhi-Hua Zhou. Learning With Feature Evolvable Streams. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 33(6): 2602{2615, 2021.
9. Tianbao Yang, **Lijun Zhang**, Qihang Lin, Shenghuo Zhu, and Rong Jin. High-dimensional Model Recovery from Random Sketched Data by Exploring Intrinsic Sparsity. *Machine Learning*, 109(5): 899{938, 2020.
10. Yuanyu Wan, and **Lijun Zhang**. Accelerating Adaptive Online Learning by Matrix Approximation. *International Journal of Data Science and Analytics (JDSA)*, 9(4): 389{400, 2020.
11. Fanhua Shang, Kaiwen Zhou, Hongying Liu, James Cheng, Ivor W. Tsang, **Lijun Zhang**, Dacheng Tao, and Licheng Jiao. Sparse Learning with Stochastic Composite Optimization. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 32(1): 188{202, 2020.
12. **Lijun Zhang**, Tianbao Yang, Rong Jin, and Zhi-Hua Zhou. Relative Error Bound Analysis for Nuclear Norm Regularized Matrix Completion. *Journal of Machine Learning Research (JMLR)*, 20(97): 1{22, 2019.
13. Tianbao Yang, **Lijun Zhang**, Rong Jin, Shenghuo Zhu, and Zhi-Hua Zhou. A Simple Homotopy Proximal Mapping Algorithm for Compressive Sensing. *Machine Learning*, 108(6): 1019{1056, 2019.
14. Weizhong Zhang, **Lijun Zhang**, Zhongming Jin, Rong Jin, Deng Cai, Xuelong Li, Ronghua Liang, and Xiaofei He. Sparse Learning with Stochastic Composite Optimization. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 39(6): 1223{1236, 2017.
15. Sen Yang, and **Lijun Zhang**. Non-redundant Multiple Clustering by Nonnegative Matrix Factorization. *Machine Learning*, 106(5): 695{712, 2017.
16. Xiaofei He, Chiyuan Zhang, **Lijun Zhang**, and Xuelong Li. A-Optimal Projection for Image Representation. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 38(5): 1009{1015, 2016.

17. Zhou Zhao, Xiaofei He, Deng Cai, **Lijun Zhang**, Wilfred Ng, and Yueting Zhuang. Graph Regularized Feature Selection with Data Reconstruction. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 28(3): 689{700, 2016.
18. Ming Lin, **Lijun Zhang**, Rong Jin, Shifeng Weng, and Changshui Zhang. Online Kernel Learning with Nearly Constant Support Vectors. *Neurocomputing*, 179: 26{36, 2016.
19. Ziyu Guan, **Lijun Zhang**, Jinye Peng, and Jianping Fan. Multi-View Concept Learning for Data Representation. *IEEE Transactions on Knowledge and Data Engineering, (TKDE)*, 27(11): 3016{3028, 2015.
20. Zhou Zhao, **Lijun Zhang**, Xiaofei He, and Wilfred Ng. Expert Finding for Question Answering via Graph Regularized Matrix Completion. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 27(4): 993{1004, 2015.
21. Qi Qian, Rong Jin, Jinfeng Yi, **Lijun Zhang**, and Shenghuo Zhu. Efficient Distance Metric Learning by Adaptive Sampling and Mini-Batch Stochastic Gradient Descent (SGD). *Machine Learning*, 99(3): 353{372, 2015.
22. Ping Li, Jiajun Bu, **Lijun Zhang**, and Chun Chen. Graph-Based Local Concept Coordinate Factorization. *Knowledge and Information Systems (TKDE)*, 43(1): 103{126, 2015.
23. Zhanying He, Chun Chen, Jiajun Bu, Can Wang, **Lijun Zhang**, Deng Cai, and Xiaofei He. Unsupervised Document Summarization from Data Reconstruction Perspective. *Neurocomputing*, 157: 356{366, 2015.
24. **Lijun Zhang**, Mehrdad Mahdavi, Rong Jin, Tianbao Yang, and Shenghuo Zhu. Random Projections for Classification: A Recovery Approach. *IEEE Transactions on Information Theory (TIT)*, 60(11): 7300{7316, 2014.
25. **Lijun Zhang**. Locally Regressive Projections. *International Journal of Software and Informatics (IJSI)*, 7(3): 435{451, 2013.
26. **Lijun Zhang**, Chun Chen, Jiajun Bu, Zhengguang Chen, Deng Cai, and Jiawei Han. Locally Discriminative Coclustering. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 24(6): 1025{1035, 2012.
27. **Lijun Zhang**, Chun Chen, Jiajun Bu, and Xiaofei He. A Unified Feature and Instance Selection Framework Using Optimum Experimental Design. *IEEE Transactions on Image Processing (TIP)*, 21(5): 2379{2388, 2012.
28. Hao Wu, Jiajun Bu, Chun Chen, Jianke Zhu, **Lijun Zhang**, Haifeng Liu, Can Wang, and Deng Cai. Locally Discriminative Topic Modeling. *Pattern Recognition*, 45(1): 617{625, 2012.
29. **Lijun Zhang**, Chun Chen, Jiajun Bu, Deng Cai, Xiaofei He, and Thomas S. Huang. Active Learning Based on Locally Linear Reconstruction. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 33(10): 2026{2038, 2011.
30. Miao Zheng, Jiajun Bu, Chun Chen, Can Wang, **Lijun Zhang**, Guang Qiu, and Deng Cai. Graph Regularized Sparse Coding for Image Representation. *IEEE Transactions on Image Processing (TIP)*, 20(5): 1327{1336. 2011.
31. **Lijun Zhang**, Zhengguang Chen, Miao Zheng, and Xiaofei He. Robust Non-negative Matrix Factorization. *Frontiers of Electrical and Electronic Engineering in China*, 6: 192{200, 2011.

32. Chun Chen, **Lijun Zhang**, Jiajun Bu, Can Wang, and Wei Chen. Constrained Laplacian Eigenmap for Dimensionality Reduction. *Neurocomputing*, 73(4-6): 951-958, 2010.

Invited Talks

- Group Distributionally Robust Optimization, The 4th Conference on Big Data and Artificial Intelligence Organized by CSIAM (**CSIAM-BDAI 2023**).
- Smoothed Online Learning, The 3rd Conference on Big Data and Artificial Intelligence Organized by CSIAM (**CSIAM-BDAI 2021**).
- Online Learning in Changing Environments, Early Career Spotlight Talks of the 29th International Joint Conference on Artificial Intelligence (**IJCAI 2020**).
- Adaptive Regret for Online Learning, Microsoft Research Asia Academic Day 2019.
- Learning under Heavy-tailed Distributions, The 2nd International Symposium on Image Computing and Digital Medicine (**ISICDM 2018**).
- Efficient Online Learning for Dynamic Environments, The 1st Conference on Big Data and Artificial Intelligence Organized by CSIAM (**CSIAM-BDAI 2018**).
- Efficient Online Learning for Dynamic Environments, 2018 International Workshop on Signal Processing, Optimization and Control (**SPOC 2018**).
- Online Learning and Applications, The 1st International Symposium on Image Computing and Digital Medicine (**ISICDM 2017**).
- Fast Rates for Empirical Risk Minimization: Beyond the  $O(1/n)$  Risk Bound, The 16th China Conference on Machine Learning (**CCML 2017**).
- Online Learning in Dynamic Environment, The 2nd Youth Symposium on Scientific and Engineering Computing (**YSSEC 2016**).
- Online Stochastic Linear Optimization under One-bit Feedback, The 6th Vision and Learning Seminar (**VALSE 2016**).
- Randomized Algorithms for Large-scale Convex Optimization, 2016 Nanjing Workshop on Numerical Optimization with Applications.
- Stochastic Optimization for Large-scale Machine Learning, The 13rd Chinese Workshop on Machine Learning and Applications (**MLA 2015**).
- Randomized Algorithms for Large-scale Convex Optimization, The 2nd Chinese Workshop on Evolutionary Computation and Learning (**ECOLE 2015**).