

Xijun Li

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🌐 [Personal Website](#)

🔍 [Google Scholar](#)

🌐 [LinkedIn Records](#)



Short Bio

李希君博士，2024 年博士毕业于中国科学技术大学（与华为技术有限公司-2012 实验室联合培养），同年加入上海交通大学计算机学院任助理教授，现主持国家自然科学基金、上海市自然科学基金等多个项目。此前在华为技术有限公司诺亚方舟实验室任主任工程师、高级工程师等职务（2018 年至 2024 年），围绕数据驱动的学习优化技术开展研究工作，已于主流学术会议、期刊上发表相关研究成果 30 余篇，其中，以第一作者/通讯作者身份在 TPAMI、ICDE、KDD、SIGMOD、ICLR、CIKM、DAC 等顶级数据挖掘、电子自动化设计会议发表论文 10 余篇。同时，已公开中国/美国专利 18 余项（第一作者专利 8 项/授权 3 项），多次获得国家奖学金以及优秀毕业生称号。李希君博士在华为履职期间是 [华为云天筹求解器](#)、[盘古大语言模型](#) 等公司级重要产品的核心研发人员，多次获得华为公司总裁个人奖、创新先锋等奖励。

Employment History

2024 Oct. – Present	Assistant Professor Shanghai Jiao Tong University.
2024 Mar. – 2024 Sept.	Principal Researcher Huawei Noah's Ark Lab.
2022 Mar. – 2024 Feb.	Senior Research Engineer A Huawei Noah's Ark Lab.
2019 Dec. – 2022 Feb.	Senior Research Engineer B Huawei Noah's Ark Lab.
2018 Apr. – 2019 Nov.	Research Engineer Huawei Noah's Ark Lab.
2017 Aug. – 2018 Mar.	Research Intern Huawei Noah's Ark Lab.

Education

2019 Sep. – 2024 Mar.	Ph.D. University of Science and Technology of China in Electronic Engineering and Information Science. HUAWEI-USTC Joint Ph.D. Program, Drafted Ratio: 1% <i>Thesis title: Research and Application of Learning to Optimization Techniques in Enterprise Resource Allocation and Optimization.</i>
2015 Sep. – 2018 Mar.	M.Sc. Shanghai Jiao Tong University in Computer Software Engineering <i>Thesis title: Research on Data Pricing Based On Entropy.</i>
2011 June. – 2015 Sep.	B.Sc. South China University of Technology in Applied Mathematics.

Research Publications

CCF-A/B and THU-A Conferences and Journals

- 1 Geng, Zijie, Jie Wang, Xijun Li, Fangzhou Zhu, Jianye Hao, Bin Li, and Feng Wu. "Differentiable integer linear programming." In *The Thirteenth International Conference on Learning Representations*. 2025.
- 2 Li, Xijun, Yufei Kuang, Jie Wang, Fangzhou Zhu, Meng Lu, Zhihai Wang, Jia Zeng, Houqiang Li, Yongdong Zhang, and Feng Wu. "Accelerate presolve in large-scale linear programming via reinforcement learning." In *IEEE Transactions on Pattern Analysis and Machine Intelligence*. **CCF A, co-first author**. IEEE, 2025.
- 3 Li, Xijun, Jiexiang Yang, Jinghao Wang, Bo Peng, Jianguo Yao, and Haibing Guan. "STRCMP: Integrating Graph Structural Priors with Language Models for Combinatorial Optimization." 2025.
- 4 Liu, Haoyang, Jie Wang, Zijie Geng, Xijun Li, Yuxuan Zong, Fangzhou Zhu, Jianye Hao, and Feng Wu. "Apollo-MILP: An alternating prediction-correction neural solving framework for mixed-integer linear programming." In *The Thirteenth International Conference on Learning Representations*. **THU-A**. 2025.
- 5 Geng, Zijie, Xijun Li, Jie Wang, Xiao Li, Yongdong Zhang, and Feng Wu. "A deep instance generative framework for milp solvers under limited data availability." In *Advances in Neural Information Processing Systems*, vol. 36. **CCF A**. 2024.
- 6 Huang, Kecheng, Xijun Li, Mingxuan Yuan, Ji Zhang, and Zili Shao. "Joint Directory, File and IO Trace Feature Extraction and Feature-based Trace Regeneration for Enterprise Storage Systems." In *2024 IEEE 40th International Conference on Data Engineering (ICDE)*. **CCF A**. IEEE, 2024.
- 7 Kuang, Yufei, Jie Wang, Yuyan Zhou, Xijun Li, Fangzhou Zhu, Jianye Hao, and Feng Wu. "Towards General Algorithm Discovery for Combinatorial Optimization: Learning Symbolic Branching Policy from Bipartite Graph." In *The Forty-first International Conference on Machine Learning*. **CCF A**. 2024.
- 8 Liu, Chang, Zhichen Dong, Haobo Ma, Weilin Luo, Xijun Li, Bowen Pang, Jia Zeng, and Junchi Yan. "L2P-MIP: Learning to Presolve for Mixed Integer Programming." In *The Twelfth International Conference on Learning Representations*. **THU A**. 2024.
- 9 Wang, Jie, Zhihai Wang, Xijun Li, Yufei Kuang, Zhihao Shi, Fangzhou Zhu, Mingxuan Yuan, Jia Zeng, Yongdong Zhang, and Feng Wu. "Learning to cut via hierarchical sequence/set model for efficient mixed-integer programming." In *IEEE Transactions on Pattern Analysis and Machine Intelligence*. **CCF A**. IEEE, 2024.
- 10 Wang, Zhihai, Lei Chen, Jie Wang, Xing Li, Yinqi Bai, Xijun Li, Mingxuan Yuan, Jianye Hao, Yongdong Zhang, and Feng Wu. "A Circuit Domain Generalization Framework for Efficient Logic Synthesis in Chip Design." In *The Forty-first International Conference on Machine Learning*. **CCF A**. 2024.
- 11 Kuang, Yufei, Jie Wang, Haoyang Liu, Fangzhou Zhu, Xijun Li, Jia Zeng, HAO Jianye, Bin Li, and Feng Wu. "Rethinking Branching on Exact Combinatorial Optimization Solver: The First Deep Symbolic Discovery Framework." In *The Twelfth International Conference on Learning Representations*. **CCF A**. 2023.
- 12 Li, Yang, Xinyan Chen, Wenxuan Guo, Xijun Li, Wanqian Luo, Junhua Huang, Hui-Ling Zhen, Mingxuan Yuan, and Junchi Yan. "Hardsatgen: Understanding the difficulty of hard sat formula generation and a

strong structure-hardness-aware baseline.” In *Proceedings of the 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, 4414–4425. **CCF A**. 2023.

- 13 Liu, Hongduo, Peiyu Liao, Mengchuan Zou, Bowen Pang, Xijun Li, Mingxuan Yuan, Tsung-Yi Ho, and Bei Yu. “Layout Decomposition via Boolean Satisfiability.” In *2023 60th ACM/IEEE Design Automation Conference (DAC)*, 1–6. **CCF A**. IEEE, 2023.
- 14 Li, Xijun, Zhihai Wang, Jie Wang, Yufei Kuang, Mingxuan Yuan, Jia Zeng, Yongdong Zhang, and Feng Wu. “Learning cut selection for mixed-integer linear programming via hierarchical sequence model.” In *The Eleventh International Conference on Learning Representations*. **THU-A, co-first author**. 2022.
- 15 Lu, Han, Zenan Li, Runzhong Wang, Qibing Ren, Xijun Li, Mingxuan Yuan, Jia Zeng, Xiaokang Yang, and Junchi Yan. “Roco: A general framework for evaluating robustness of combinatorial optimization solvers on graphs.” In *The Eleventh International Conference on Learning Representations*. **THU A**. 2022.
- 16 Zhang, Ji, Xijun Li, Xiyao Zhou, Mingxuan Yuan, Zhuo Cheng, Keji Huang, and Yifan Li. “L-qoco: learning to optimize cache capacity overloading in storage systems.” In *Proceedings of the 59th ACM/IEEE Design Automation Conference*, 379–384. **CCF A, corresponding author**. 2022.
- 17 Li, Xijun, Weilin Luo, Mingxuan Yuan, Jun Wang, Jiawen Lu, Jie Wang, Jinhu Lü, and Jia Zeng. “Learning to optimize industry-scale dynamic pickup and delivery problems.” In *2021 IEEE 37th International Conference on Data Engineering (ICDE)*, 2511–2522. **CCF A**. IEEE, 2021.
- 18 Tang, Yingtian, Han Lu, Xijun Li, Lei Chen, Mingxuan Yuan, and Jia Zeng. “Learning-aided heuristics design for storage system.” In *Proceedings of the 2021 International Conference on Management of Data*, 2597–2601. **CCF A, corresponding author**. 2021.
- 19 Wang, Zhenkun, Hui-Ling Zhen, Jingda Deng, Qingfu Zhang, Xijun Li, Mingxuan Yuan, and Jia Zeng. “Multiobjective optimization-aided decision-making system for large-scale manufacturing planning.” In *IEEE Transactions on Cybernetics*, 52:8326–8339. 8. **CCF B**. IEEE, 2021.
- 20 Li, Xijun, Jianguo Yao, Mingxuan Yuan, and Jia Zeng. “A Two-Layer Algorithmic Framework for Service Provider Configuration and Planning with Optimal Spatial Matching.” In *Proceedings of the 27th ACM International Conference on Information and Knowledge Management*, 2273–2281. **CCF B**. 2018.
- 21 Li, Xijun, Mingxuan Yuan, Di Chen, Jianguo Yao, and Jia Zeng. “A data-driven three-layer algorithm for split delivery vehicle routing problem with 3D container loading constraint.” In *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, 528–536. **CCF A**. 2018.
- 22 Li, Xijun, Jianguo Yao, Xue Liu, and Haibing Guan. “A first look at information entropy-based data pricing.” In *2017 IEEE 37th International Conference on Distributed Computing Systems (ICDCS)*, 2053–2060. **CCF B**. IEEE, 2017.

Others

- 1 Kuang, Yufei, Xijun Li, Jie Wang, Fangzhou Zhu, Meng Lu, Zhihai Wang, Jia Zeng, Houqiang Li, Yongdong Zhang, and Feng Wu. “Accelerate presolve in large-scale linear programming via reinforcement learning.” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2025.

- 2 Liu, Hongduo, Peiyu Liao, Mengchuan Zou, Bowen Pang, Xijun Li, Mingxuan Yuan, Tsung-Yi Ho, and Bei Yu. "Layout decomposition via boolean satisfiability." *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 2024.
- 3 Guo, Wenxuan, Hui-Ling Zhen, Xijun Li, Wanqian Luo, Mingxuan Yuan, Yaohui Jin, and Junchi Yan. "Machine learning methods in solving the boolean satisfiability problem." *Machine Intelligence Research* 20, no. 5 (2023): 640–655.
- 4 Li, Xijun, Qingyu Qu, Fangzhou Zhu, Mingxuan Yuan, Jia Zeng, and Jie Wang. "Accelerating Linear Programming Solving by Exploiting the Performance Variability via Reinforcement Learning." *AAAI 2023 workshop on AI to Accelerate Science and Engineering*, 2023.
- 5 Yang, Yiyuan, Rongshang Li, Qiquan Shi, Xijun Li, Gang Hu, Xing Li, and Mingxuan Yuan. "SGDP: A stream-graph neural network based data prefetcher." *2023 International Joint Conference on Neural Networks (IJCNN)*, 2023, 1–8.
- 6 Zhang, Jiayi, Chang Liu, Xijun Li, Hui-Ling Zhen, Mingxuan Yuan, Yawen Li, and Junchi Yan. "A survey for solving mixed integer programming via machine learning." *Neurocomputing* 519 (2023): 205–217.
- 7 Li, Xijun, Yunfan Zhou, Jinhong Luo, Mingxuan Yuan, Jia Zeng, and Jianguo Yao. "Learning to optimize dag scheduling in heterogeneous environment." *2022 23rd IEEE International Conference on Mobile Data Management (MDM)*, 2022, 137–146.
- 8 Qu, Qingyu, Kexin Liu, Xijun Li, Yunfan Zhou, and Jinhu Lü. "Satellite observation and data-transmission scheduling using imitation learning based on mixed integer linear programming." *IEEE Transactions on Aerospace and Electronic Systems* 59, no. 2 (2022): 1989–2001.
- 9 Zhen, Hui-Ling, Zhenkun Wang, Xijun Li, Qingfu Zhang, Mingxuan Yuan, and Jia Zeng. "Accelerate the optimization of large-scale manufacturing planning using game theory." *Complex & Intelligent Systems* 8, no. 4 (2022): 2719–2730.

Grants

1. National Natural Science Foundation of China: Young Scientist Program (国家自然科学基金青年基金 C 类) (主持, 2026-2028, 300,000 RMB)
2. Shanghai Municipal Basic Research Program: Natural Science Foundation (上海市自然科学基金项目) (主持, 2025-2028, 250,000 RMB)
3. Start-up Fund for Newly-introduced Young Teachers at Shanghai Jiao Tong University (上海交通大学新进教师启动计划, 主持, 2024-2027)
4. 面向混合整数规划规划优化求解的运筹优化技术, 科技创新 2030- “新一代人工智能” 重大项目, 6.79M RMB, 2022-2025 (排名: 3/20)
5. 学习优化求解器技术项目 TC20210902020, 华为技术有限公司, 1.21M RMB, 2021-2022 (排名: 1/16)

6. 多工厂排产引擎元启发式搜索算法合作项目 YBN2018055166, 华为技术有限公司, 1.35M HKD, 2018-2019 (排名: 1/10)

Miscellaneous

Awards and Achievements

- 2024  **Battlefield Heroes Award (战地英雄奖)**, 2012 Labs, Huawei Technologies [[certification](#)].
-  **Siye Special Research Award for Pangu LLM (四野特别攻关奖)**, 2012 Labs, Huawei Technologies [[certification](#)].
- 2023  **Presidential Individual Award (总裁个人奖), Top 1%**, 2012 Labs, Huawei Technologies [[certification](#)].
-  **Presidential Individual Award (总裁个人奖), Top 1%**, Supply Chain Department, Huawei Technologies [[certification](#)].
- 2022  **Battlefield Heroes Award (战地英雄奖), Top 2%**, 2012 Labs, Huawei Technologies [[certification](#)].
- 2020  **Gold Medal Team Award (金牌团队奖)**, 2012 Labs, Huawei Technologies [[certification](#)].
- 2019  **Innovation Pioneer Award (创新先锋奖, Top 2%)**, 2012 Labs, Huawei Technologies [[certification](#)].
- 2018  **Excellent New Employee (优秀新员工, Top 5%)**, 2012 Labs, Huawei Technologies [[certification](#)].
-  **Outstanding Graduate**, Shanghai Jiao Tong University [[certification](#)].
- 2017  **National Scholarship (国家奖学金)**, Chinese Ministry of Education [[certification](#)].
- 2014  **National Scholarship (国家奖学金)**, Chinese Ministry of Education [[certification](#)].
-  **Skyworth Enterprise Scholarship (创维企业奖学金 / top 5% out of all students)**, Skyworth Enterprise [[certification](#)].

Software

- 2024  **Machine Learning Insides OptVerse AI Solver: Design Principles and Applications**, Huawei Technologies [[page](#)].

Competitions

- 2023  **3rd Place, Parallel Track, SAT Competition 2023** [[certification](#)].
- 2021  **1st Place, Student Leaderboard in Dual Track**, NeurIPS 2021 ML4CO Competition [[certification](#)].

Patents

- CN116661676A 一种带宽控制方法、数据处理系统及相关设备: **李希君**, 周云帆, 李文思, 张霁, 袁明轩 (实质审查)
- CN111738409A 一种资源调度的方法及其相关设备: **李希君**, 罗威林, 陆佳文, 袁明轩 (授权)

3. CN116468099A 一种模型结构的优化方法及装置: **李希君**, 朱方舟, 甄慧玲, 付小津, 陆梦, 曾嘉, 袁明轩 (实质审查)
4. CN115496247A 一种业务数据的处理方法以及装置: **李希君**, 郝晓田, 袁明轩, 郝建业, 曾嘉
5. CN117370715A 基于云计算技术的目标函数求解方法、装置和计算设备: **李希君**, 李建树, 王治海, 曾嘉 (公开)
6. CN117422191A 一种数学规划实例生成的方法、系统和电子设备: **李希君**, 安志武, 朱方舟, 耿子介, 王杰 (公开)
7. CN117422206B 提升工程问题决策和调度效率的方法、设备及存储介质: 王杰, 刘昊洋, 匡宇飞, **李希君**, 张勇东, 吴枫 (授权)
8. CN117371674A 目标规划问题的求解方法、选择节点的方法及装置: **李希君**, 杨沐明, 匡宇飞, 曾嘉 (公开)
9. CN116933908A 一种计算机任务处理方法及其相关设备: 陆梦, 甄慧玲, **李希君**, 朱方舟, 袁明轩, 曾嘉 (公开)
10. CN111915060A 组合优化任务的处理方法以及处理装置: 甄慧玲, 王振坤, **李希君**, 张青富, 袁明轩 (实质审查)
11. CN114237835A 一种任务求解方法及其装置: 朱方舟, 罗万千, 甄慧玲, **李希君**, 袁明轩, 曾嘉 (实质审查)
12. CN112818280B 一种信息处理方法以及相关设备: 甄慧玲, 王振坤, 张青富, **李希君**, 韩雄威 (授权)
13. CN114117715A 多目标任务优化的方法与装置: 王振坤, 甄慧玲, **李希君**, 张青富, 袁明轩 (实质审查)
14. CN116050522A 预求解配置方法及装置: 罗威林, 庞博文, **李希君**, 刘畅, 严骏驰, 曾嘉 (实质审查)
15. CN116483633A 一种数据增广方法及相关装置: 黄俊华, 罗万千, **李希君**, 甄慧玲, 酆洋, 严骏驰 (实质审查)

Invited Talks

- 2023
- Our OptVerse AI Solver received [WAIC SAIL Award](#) and I gave a [tutorial](#) and [presentation](#) on behalf of our team!
 - “Order matters: Boosting Mathematical Programming Solver via Machine Learning Techniques” at [the MOS2023 中国运筹学会](#)
 - “Order matters: Boosting Mathematical Programming Solver via Machine Learning Techniques” at [CUHK\(SZ\) 香港中文大学 \(深圳\)](#) and [SRIBD 深圳大数据研究院](#)

Invited Talks (continued)

- 2022  “Frontier of Learning to Optimization” at [CUHK\(SZ\) Computing Mathematic Forum](#) [香港中文大学 \(深圳\) 计算数学论坛](#)

Academic Service

Area Chair

- 2026  International Conference on Learning Representations (ICLR)

Program Committee Member

- 2024  The AAAI Workshop on Artificial Intelligence for Operations Research
-  The ACM Web Conference (formerly known as International World Wide Web Conference, abbreviated as WWW)
-  The Twelfth International Conference on Learning Representations (ICLR)
-  The AAAI Conference on Artificial Intelligence (AAAI)
- 2023  Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)
-  The International Conference on Data Engineering (ICDE)
-  The ACM Web Conference (formerly known as International World Wide Web Conference, abbreviated as WWW)
-  The AAAI Conference on Artificial Intelligence (AAAI)
- 2022  The International Conference on Data Engineering (ICDE)
- 2021  The IEEE International Conference on Mobile Data Management (MDM) Industry Track
-  The AAAI Conference on Artificial Intelligence (AAAI)
-  The IEEE International Conference on Mobile Data Management (MDM)
- 2020  The AAAI Conference on Artificial Intelligence (AAAI)
-  The ACM International Conference on Information and Knowledge Management (CIKM)

Journal Reviewer

- 1  The IEEE Transactions on Knowledge and Data Engineering