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| **吕沈欢** | D:\Data\jianguoyunpan\我的坚果云\河海大学\个人简历\证件照\lsh-4x3-l.jpg |
| 河海大学计算机与软件学院 |  |
| 地址：江苏省南京市江宁区佛城西路8号 | 电话：(+86) 17625935601 |
| 个人主页：https://lyushenhuan.github.io/ | 邮箱：lvsh@hhu.edu.cn |

**教育经历**

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| --- | --- |
| 南京大学，计算机科学与技术系，直博 | *2017.09–2022.12* |
| 导师：周志华 教授 |  |
| 中国科学技术大学，统计系，学士 | *2013.09-2017.06* |
| 保研免试进入南京大学计算机系直接攻博 |  |

**研究兴趣**

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| 我目前的研究兴趣主要包括深度学习理论。具体地说，我对以下研究方向感兴趣：   * 深度森林：主要关注深度森林所涉及的一些结构和部件的理论分析，并通过这些分析启发新型深度森林算法设计 * 深度神经网络：主要关注深度神经网络的过参数化现象，从理论上解释过参数化和过拟合风险之间的关系 |

**项目情况**

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| 主持国家自然科学基金青年基金项目 | *2024.01-2026.12* |
| “面向特征变化的深度森林理论方法研究”（62306104） |  |
| 主持中国博士后科学基金特别资助（站前） | *2022.12-2024.11* |
| “特征增广机制下的不可微深度学习理论研究”（2023TQ0104） |  |
| 参与国家自然科学基金创新群体项目 | *2020.01-2024.12* |
| “面向开放动态环境的机器学习”（61921006） |  |
| 参与国家自然科学基金重点项目 | *2017.01-2021.12* |
| “新型深度学习模型与方法的研究”（61751306） |  |
| 参与科技部国家重点研发计划“云计算与大数据”专项项目 | *2018.05-2021.04* |
| “大数据分析的理论基础和技术方法”（2018YFB1004300） |  |

**发表论文**

1. Shen-Huan Lyu, Yi-Xiao He, and Zhi-Hua Zhou. Depth is More Powerful than Width in Deep Forest. In: Advances in Neural Information Processing Systems 35 (**NeurIPS’22**), pp. 29719-29732, New Orleans, Louisiana, US, 2022. (**CCF A，本文被评为Oral**)
2. Shen-Huan Lyu, Liang Yang, and Zhi-Hua Zhou. A Refined Margin Distribution Analysis for Forest Representation Learning. In: Advances in Neural Information Processing Systems 32 (**NeurIPS’19**), pp. 5531-5541, Vancouver, British Columbia, CA, 2019. (**CCF A**)
3. Shen-Huan Lyu, Lu Wang, and Zhi-Hua Zhou. Improving Generalization of Deep Neural Networks by Leveraging Margin Distribution. **Neural Networks**, 151: 48-60, 2022. (**中科院1区 & CCF B**)
4. Shen-Huan Lyu, Yi-He Chen, and Zhi-Hua Zhou. A Region-based Analysis for Feature Concatenation in Deep Forests. **Chinese Journal of Electronics**, 31(6):1072-1080, 2022. (**CCF A**)
5. 吕沈欢, 陈一赫, 姜远. 基于交互特征的多标记深度森林.**《软件学报》,** 35(4):1934-1944, 2024. (**CCF A**)
6. Yu-Chang Wu, Shen-Huan Lyu, Haopu Shang, Xiangyu Wang, and Chao Qian. Confidence-aware Contrastive Learning for Selective Classification. In: Proceedings of the 41st International Conference on Machine Learning (**ICML’24**), in press, 2024. (**CCF A**)
7. Yi-Xiao He, Dan-Xuan Liu, Shen-Huan Lyu, Chao Qian, and Zhi-Hua Zhou. Multi-Class Imbalance Problem: A Multi-Objective Solution. **Information Sciences**, in press, 2024. (**中科院1区 & CCF B**)
8. Yi-He Chen, Shen-Huan Lyu, and Yuan Jiang. Improving Deep Forest by Exploiting High-order Interactions. In: Proceedings of the 21st IEEE International Conference on Data Mining (**ICDM’21**), pp. 1030-1035, Auckland, NZ, 2021. (**CCF B**)
9. Yi-Xiao He, Shen-Huan Lyu, and Yuan Jiang. Interpreting Deep Forest through Feature Contribution and MDI Feature Importance. **ACM Transactions on Knowledge Discovery from Data,** 2024. (**CCF B**)
10. Yanyan Wang, Jia Liu, Shen-Huan Lyu, Zhihao Qu, Bin Tang, and Baoliu Ye. Identifying Key Tag Distribution in Large-Scale RFID Systems. In: IEEE/ACM 32nd International Symposium on Quality of Service (**IWQoS’24**), in press, 2024. (**CCF B**)
11. Qin-Cheng Zheng, Shen-Huan Lyu, Shao-Qun Zhang, Yuan Jiang, and Zhi-Hua Zhou. On the Consistency Rate of Decision Tree Learning Algorithms. In Proceedings of the 26th International Conference on Artificial Intelligence and Statistics (**AISTATS’23**), pp. 7824-7848, Valencia, ES, 2023. (**CCF C**)

**投稿论文**

1. Shen-Huan Lyu, Yi-Xiao He, and Baoliu Ye. BODTs: Boosted Oblique Decision Trees via Feature Concatenation. under review.
2. Shen-Huan Lyu, Jin-Hui Wu, Qin-Cheng Zheng, and Baoliu Ye. Depth is More Powerful than Tree Size and Width in Forests. under review.
3. Qin-Cheng Zheng, Shao-Qun Zhang, Shen-Huan Lyu, and Zhi-Hua Zhou. Theoretical Investigation on Inductive Bias of Isolation Forest. under review.
4. Wenxuan Zhou, Zhihao Qu, Shen-Huan Lyu, Miao Cai, and Baoliu Ye. Mask-Encoded Sparsification: Overcoming Biased Gradients for Communication-Efficient Split Learning. under review.

**学术服务**

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| 国际学术会议程序委员会成员 **(Program Committee Member)：**   * ICML: 2021-2024 * NeurIPS: 2020-2024 * AAAI: 2019, 2022, 2023 * IJCAI: 2020-2024 * ICLR: 2021, 2023 * AISTATS: 2019, 2022   国际学术期刊审稿人 **(Reviewer)：**   * Artificial Intelligence (AIJ) * IEEE Transactions on Knowledge and Data Engineering (TKDE) * IEEE Transactions on Neural Networks and Learning Systems (TNNLS) * ACM Transactions on Knowledge Discovery from Data (TKDD) * Machine Learning * Neural Networks |

**荣誉奖励**

1. 中国博士后科学基金第5批特别资助，北京，2023
2. 江苏省人工智能学会优博，南京，2023
3. 江苏省卓越博士后计划，南京，2023
4. 南京市人工智能产业人才兴智计划奖学金，南京，2019
5. 南京大学研究生学业奖学金 一等奖，南京，2017-2019
6. 南京大学博士新生校长奖学金，南京，2017
7. 南京大学研究生英才奖学金 二等奖，南京，2022
8. 中国科学技术大学优秀学生奖学金 银奖，合肥，2014, 2016