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🎓 教育背景

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|-----------------------------------|-------------|
| 清华大学, 北京 博士后 计算机科学与技术 | 2023 – 至今 |
| 多伦多大学, 多伦多, 加拿大 博士研究生 电子与计算机工程 | 2018 – 2023 |
| 西安电子科技大学, 西安, 陕西 硕士 通信工程 | 2015 – 2018 |
| 西安电子科技大学, 西安, 陕西 学士 通信工程 | 2011 – 2015 |

🔍 研究兴趣

分布式机器学习, 强化学习, 图神经网络, 联邦学习, 隐私保护, 数据中心网络, 负载均衡, 拥塞控制

📄 已发表的会议论文

1. Tianhang Zheng, **Hao Lan**, Baochun Li. “Be Careful with Third-Party Packages: You May Unconsciously Spread Backdoor Model Weights,” in the Proceedings of the Sixth Conference on Machine Learning and Systems (**MLSys 2023**), Miami, Florida, June 4-8, 2023. (**acceptance ratio: 22%**).
2. Wanyu Lin, **Hao Lan**, Hao Wang, Baochun Li. “*OrphicX*: A Causality-Inspired Latent Variable Model for Interpreting Graph Neural Networks,” in the Proceedings of the 2022 IEEE Conference on Computer Vision and Pattern Recognition (**CVPR 2022**), **Best Paper Finalist**, Oral Presentation, New Orleans, Louisiana, June 19-24, 2022. (**CCF A, best paper finalist 33/8161=0.4%**)
3. **Hao Lan**, Li Chen, Baochun Li. “Accelerated Device Placement Optimization with Contrastive Learning,” in the Proceedings of the 50th International Conference on Parallel Processing (**ICPP 2021**), Online, Argonne National Laboratory, Illinois, August 9-12, 2021. (**CCF B, acceptance ratio: 26.4%**).
4. Wanyu Lin, **Hao Lan**, Baochun Li. “Generative Causal Explanations for Graph Neural Networks,” in the Proceedings of the 38th International Conference on Machine Learning (**ICML 2021**), Online, July 18-24, 2021. (**CCF A, acceptance ratio: 21.4%**).
5. **Hao Lan**, Li Chen, Baochun Li. “*EAGLE*: Expedited Device Placement with Automatic Grouping for Large Models,” in the Proceedings of the 35th IEEE International Parallel and Distributed Processing Symposium (**IPDPS 2021**), Online, Portland, Oregon, May 17-21, 2021. (**CCF B**).
6. **Hao Lan**, Huaxi Gu, Xiaoshan Yu, Xi Wang, OROF: A Hybrid Topology with High Scalability for Data Center Networks, in the Proceedings of the 14th International Conference on Optical Communications and Networks (**ICOCN 2015**).

7. **Hao Lan**, Huaxi Gu, Xiaoshan Yu, Xi Wang, A Novel Multi-Controller Flow Schedule Scheme for Fat-Tree Architecture, in the Proceedings of the 15th International Conference on Optical Communications and Networks (ICOON 2016).

📖 已发表的期刊论文

1. Shangqi Ma, Huaxi Gu, **Hao Lan**, Xiaoshan Yu, Kun Wang, "RSS: a relay-based schedule scheme for optical data center network." Photonic Network Communications 39.1 (2020): 70-77.
2. Xiaoshan Yu, Hong Xu, Huaxi Gu, **Hao Lan**, "THOR: a scalable hybrid switching architecture for data centers", IEEE Transactions on Communications 66.10 (2018): 4653-4665. (CCF A)

📝 待发表的论文

1. **Hao Lan**, Baochun Li. "Device Placement Optimization with Pipeline Parallelism via Deep Reinforcement Learning," under submission.
2. Wanyu Lin, **Hao Lan**. "Graph-Relational Hypernetworks for Personalized Federated Learning," under submission.

🏠 学术服务

- 程序委员会委员 (**Program Committee Member**): 2022 the ICLR Workshop on "PAIR²Struct: Privacy, Accountability, Interpretability, Robustness, Reasoning on Structured Data."
- 学术期刊论文审稿: IEEE TCOM, IEEE TDSC, IEEE TNNLS
- 学术会议论文审稿: IEEE CVPR, NeurIPS, ACM Multimedia, ACM MMSys, IEEE IWQoS, IEEE ICDCS

🗣️ 学术演讲

- **EAGLE: Expedited Device Placement with Automatic Grouping for Large Models**
IEEE IPDPS, Virtual Conference *May 2021*
- **Accelerated Device Placement Optimization with Contrastive Learning**
ACM ICPP, Virtual Conference *August 2021*

♥️ 获奖情况

- **Doctoral Completion Award**, ECE Department, University of Toronto *2022*
- **University of Toronto Fellowship**, ECE Department, University of Toronto *2018*
- **Edward S. Rogers Sr. Graduate Scholarships**, University of Toronto *2018*
- 国家公派博士研究生项目 (与多伦多大学合作奖学金), 国家留学基金管理委员会 *2018*
- 国家奖学金, 西安电子科技大学 *2015*
- **Honorable Mention**, 美国大学生数学建模竞赛 (ICM) *2014*
- 二等奖, 中国大学生数学建模竞赛 (CUMCM), 陕西省 *2013*
- 特等奖, 第九届“挑战杯”陕西大学生课外学术科技作品竞赛 *2013*
- **Honorable Mention**, 美国大学生数学建模竞赛 (MCM) *2013*

i 教学经验

- 助教, 多伦多大学 2018 – 2022
 - ECE344: Operating Systems 2020 – 2022
 - ECE353: System Software 2019 – 2022
 - 课程实验设计 ECE353: System Software 2019 夏
- 助教, 西安电子科技大学 2015 – 2018
 - 操作系统 2017 – 2018
 - C 语言设计 2017
 - 交换机原理与技术 2016
 - 通信网络原理 2016

🎓 毕业论文指导

- **Seyed Amir Ali Mousavi Biuki**, 学士学位毕业论文, 多伦多大学 2019 – 2020
论文标题: Device Placement Optimization using Reinforcement Learning
- **Ahmed Abdulkadir**, 学士学位毕业论文, 多伦多大学 2019 – 2020
论文标题: Optimizing Device Placement for Training Deep Learning Algorithms using Graph Neural Networks

👤 推荐人

Baochun Li, IEEE Fellow, Professor
Bell Canada Endowed Chair in Computer Engineering
Department of Electrical and Computer Engineering
University of Toronto
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Hao Lan

PRESENT APPOINTMENT Postdoctoral Researcher *Email:* hao.lan@mail.utoronto.ca
Department of Computer Science & Technology lanhao34@foxmail.com
Tsinghua University, *Phone:* +1 437 970 8885
Haidian District, Beijing, China *Web:* https://lanhao.me

RESEARCH INTERESTS Distributed Machine Learning, Deep Reinforcement Learning, Graph Neural Networks, Federated Learning, Privacy Preserving, Data Center Network, Load Balancing, Congestion Control.

EDUCATION **Tsinghua University**, Beijing, China
Department of Computer Science and Technology

◇ **Postdoc.**, Department of Computer Science & Technology **2023 – Present**
▷ *Advisor:* Jiwu Shu, Department of Computer Science & Technology

University of Toronto, Toronto, Ontario, Canada
Department of Electrical & Computer Engineering

◇ **Ph.D.**, Electrical & Computer Engineering **2018 – 2023**
▷ *Advisor:* Baochun Li, Department of Electrical & Computer Engineering

Xidian University, Xi'an, Shannxi, China
School of Telecommunications Engineering

◇ **M.Engr.**, Electronics & Telecommunications Engineering **2015 – 2018**
▷ *Advisor:* Huaxi Gu, School of Telecommunications Engineering

◇ **B.Engr.**, Telecommunication Engineering **2011 – 2015**

RESEARCH EXPERIENCE *Research Assistant*, supervised by Prof. Baochun Li **2018 – Present**
University of Toronto, Toronto

Research Assistant, supervised by Prof. Huaxi Gu **2015 – 2018**
Xidian University, Xi'an

PUBLICATIONS [◇] **Refereed Papers in Conference Proceedings** (in reverse chronological order)

Tianhang Zheng, **Hao Lan**, Baochun Li. “Be Careful with Third-Party Packages: You May Unconsciously Spread Backdoor Model Weights,” in the Proceedings of the Sixth Conference on Machine Learning and Systems (**MLSys 2023**), Miami, Florida, June 4-8, 2023. (**acceptance ratio: 22%**).

Wanyu Lin, **Hao Lan**, Hao Wang, Baochun Li. “*OrphicX*: A Causality-Inspired Latent Variable Model for Interpreting Graph Neural Networks,” in the Proceedings of the 2022 IEEE Conference on Computer Vision and Pattern Recognition (**CVPR 2022**), Oral Presentation, New Orleans, Louisiana, June 19-24, 2022. (**Best paper finalist 0.4%**).

Hao Lan, Li Chen, Baochun Li. “Accelerated Device Placement Optimization with Contrastive Learning,” in the Proceedings of the 50th International Conference on Parallel Processing (**ICPP 2021**), Online, Argonne National Laboratory, Illinois, August 9-12, 2021. (**acceptance ratio: 26.4%**).

Wanyu Lin, **Hao Lan**, Baochun Li. “Generative Causal Explanations for Graph Neural Networks,” in the Proceedings of the 38th International Conference on Machine Learning (**ICML 2021**), Online, July 18-24, 2021. (**acceptance ratio: 21.4%**).

Hao Lan, Li Chen, Baochun Li. “*EAGLE*: Expedited Device Placement with Automatic Grouping for Large Models,” in the Proceedings of the 35th IEEE International Parallel and Distributed Processing Symposium (**IPDPS 2021**), Online, Portland, Oregon, May 17-21, 2021.

Hao Lan, Huaxi Gu, Xiaoshan Yu, Xi Wang, “A Novel Multi-Controller Flow Schedule Scheme for Fat-Tree Architecture,” in the Proceedings of the 15th International Conference on Optical Communications and Networks (**ICOON 2016**).

Hao Lan, Huaxi Gu, Xiaoshan Yu, Xi Wang, “OROF: A Hybrid Topology with High Scalability for Data Center Networks,” in the Proceedings of the 14th International Conference on Optical Communications and Networks (**ICOON 2015**).

[◇] **Refereed Journal Articles** (in reverse chronological order)

Shangqi Ma, Huaxi Gu, **Hao Lan**, Xiaoshan Yu, Kun Wang, “RSS: A Relay-Based Schedule Scheme for Optical Data Center Network,” *Photonic Network Communications* 39.1 (2020): 70-77.

Xiaoshan Yu, Hong Xu, Huaxi Gu, **Hao Lan**, “THOR: A Scalable Hybrid Switching Architecture for Data Centers,” *IEEE Transactions on Communications* 66.10 (2018): 4653-4665.

SUBMITTED PAPERS (UNDER REVIEW) **Hao Lan**, Baochun Li. “Device Placement Optimization with Pipeline Parallelism via Deep Reinforcement Learning,” under submission.

Wanyu Lin, **Hao Lan**. “Graph-Relational Hypernetworks for Personalized Federated Learning,” under submission.

PROFESSIONAL SERVICES

- ◇ **Program Committee Member:** 2022 the ICLR Workshop on “**PAIR²Struct**: Privacy, Accountability, Interpretability, Robustness, Reasoning on Structured Data.”
- ◇ **Reviewer for Journal Manuscript Submissions:** IEEE TCOM, IEEE TDSC, IEEE TNNLS
- ◇ **Reviewer for Conference Manuscript Submissions:** IEEE CVPR, NeurIPS, ACM Multimedia, ACM MMSys, IEEE IWQoS, IEEE ICDCS

SCHOLARLY TALKS **EAGLE: Expedited Device Placement with Automatic Grouping for Large Models**
IEEE IPDPS, Virtual Conference *May 2021*

Accelerated Device Placement Optimization with Contrastive Learning

ACM ICPP, Virtual Conference

August 2021

HONORS AND AWARDS

- ◇ **Doctoral Completion Award**, Department of Electrical & Computer Engineering, University of Toronto, 2022 - 2023.
- ◇ **University of Toronto Fellowship**, Department of Electrical & Computer Engineering, University of Toronto, 2018 - 2022.
- ◇ **Edward S. Rogers Sr. Graduate Scholarships**, University of Toronto, 2018.
- ◇ **CSC Scholarships**, China Scholarship Council, 2018.
- ◇ **National scholarship**, Xidian University (Top 3% of 700+), 2015,
- ◇ **Honorable Mention**, International Interdisciplinary Contest In Modeling (ICM), 2014.
- ◇ **Second Prize**, China Undergraduate Mathematical Contest in Modeling (CUMCM), Shaanxi, 2013.
- ◇ **Grand Prize**, 9th "Challenge Cup" Shaanxi College Student Curricular Academic Science and Technology Works Competition, 2013.
- ◇ **Honorable Mention**, International Mathematical Contest In Modeling (MCM), 2013.

TEACHING EXPERIENCE

Teaching Assistant **2015 – 2022**

University of Toronto, Toronto

- ▷ ECE 344: Operating System **2020 Fall, 2021 Fall, Fall 2022**
- ▷ ECE 353: System Software **Winter 2019, Winter 2020, Winter 2022**
- ▷ ECE 353: System Software (Course Development) **2019 Summer**

Xidian University, Xi'an

- ▷ Operating System **2017, 2018**
- ▷ Switching Principle and Technology **2016**
- ▷ Communication Networks Theory **2016**
- ▷ C Program Design **2016**

MENTORING

Seyed Amir Ali Mousavi Biuki, undergraduate student

University of Toronto

Sept. 2019 – Apr. 2020

Thesis title: "Device Placement Optimization using Reinforcement Learning"

Ahmed Abdulkadir, undergraduate student

University of Toronto

Sept. 2019 – Apr. 2020

Thesis title: "Optimizing Device Placement for Training Deep Learning Algorithms using Graph Neural Networks"

REFERENCES

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