

JUN WU

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PARTICULARS

EDUCATION

University of Illinois at Urbana-Champaign
Ph. D. in Computer Science
• Advisor: Prof. Jingrui He
• GPA: 4.0/4.0

Champaign, IL, USA
Aug. 2019 - May. 2024 (Expected)

Arizona State University
Ph. D. in Computer Science
• Advisor: Prof. Jingrui He
• GPA: 3.97/4.0

Tempe, AZ, USA
Aug. 2017 - Jul. 2019

Dalian University of Technology
M. S. in Computer Science

Dalian, Liaoning, China
Sep. 2014 - Jun. 2017

Dalian University of Technology
B. S. in Mathematics

Dalian, Liaoning, China
Sep. 2010 - Jun. 2014

RESEARCH INTERESTS

My research interests focus on statistical machine learning and trustworthy transfer learning, with applications in agriculture, bioinformatics, e-commerce, and legal analytics.

PUBLICATIONS

CONFERENCE

1. **Jun Wu**, Elizabeth Ainsworth, Andrew Leakey, Haixun Wang, Jingrui He. “Graph-Structured Gaussian Processes for Transferable Graph Learning.” Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS-2023).
2. **Jun Wu**, Wenxuan Bao, Elizabeth Ainsworth, and Jingrui He. “Personalized Federated Learning with Parameter Propagation.” In Proceedings of the 29th ACM SIGKDD Conference on Knowledge Discovery & Data Mining (KDD-2023).
3. **Jun Wu**, Jingrui He, and Elizabeth Ainsworth. “Non-IID Transfer Learning on Graphs.” Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI-2023).
4. Wenxuan Bao, Haohan Wang, **Jun Wu**, and Jingrui He. “Optimizing the Collaboration Structure in Cross-silo Federated Learning.” Fortieth International Conference on Machine Learning (ICML-2023).
5. **Jun Wu**, Jingrui He, Sheng Wang, Kaiyu Guan, and Elizabeth Ainsworth. “Distribution-Informed Neural Networks for Domain Adaptation Regression.” Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS-2022).
6. **Jun Wu**, and Jingrui He. “Domain Adaptation with Dynamic Open-Set Targets.” In Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery & Data Mining (KDD-2022).
7. **Jun Wu**, and Jingrui He. “A Unified Meta-Learning Framework for Dynamic Transfer Learning.” In Proceedings of the 31st International Joint Conference on Artificial Intelligence (IJCAI-2022).
8. **Jun Wu***, Yao Zhou*, Haixun Wang, and Jingrui He. “Adversarial Robustness through Bias Variance Decomposition: A New Perspective for Federated Learning.” In Proceedings of the 31st ACM International Conference on Information and Knowledge Management (CIKM-2022). (*Equal contribution)

9. **Jun Wu**, Hanghang Tong, Elizabeth Ainsworth, and Jingrui He. “Adaptive Knowledge Transfer on Evolving Domains.” In 2022 IEEE International Conference on Big Data (BigData-2022).
10. **Jun Wu**, and Jingrui He. “Indirect Invisible Poisoning Attacks on Domain Adaptation.” In Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery & Data Mining (KDD-2021).
11. Yao Zhou, Jianpeng Xu, **Jun Wu**, Zeinab Taghavi, Evren Korpeoglu, Kannan Achan, and Jingrui He. “PURE: Positive-Unlabeled Recommendation with Generative Adversarial Network.” In Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery & Data Mining (KDD-2021).
12. Shane Roach, Connie Ni, Alexei Kopylov, Tsai-Ching Lu, Jiejun Xu, Si Zhang, Boxin Du, Dawei Zhou, **Jun Wu**, Lihui Liu, Yuchen Yan, Jingrui He, Hanghang Tong. “CANON: Complex Analytics of Network of Networks for Modeling Adversarial Activities.” In 2020 IEEE International Conference on Big Data (BigData-2020).
13. **Jun Wu**, Jingrui He, and Jiejun Xu. “DEMO-Net: Degree-specific Graph Neural Networks for Node and Graph Classification.” In Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining. (KDD-2019).
14. **Jun Wu**, and Jingrui He. “Scalable Manifold-Regularized Attributed Network Embedding via Maximum Mean Discrepancy.” In Proceedings of the 28th ACM International Conference on Information and Knowledge Management (CIKM-2019).
15. Xue Hu, **Jun Wu**, and Jingrui He. “Textual Indicator Extraction from Aviation Accident Reports.” In AIAA Aviation 2019 Forum (AIAA-2019).
16. **Jun Wu**, Jingrui He, and Yongming Liu. “*ImVerde*: Vertex-Diminished Random Walk for Learning Imbalanced Network Representation.” In 2018 IEEE International Conference on Big Data (BigData-2018).

WORKSHOP

17. **Jun Wu**, Elizabeth A. Ainsworth, Sheng Wang, Kaiyu Guan, and Jingrui He. “Adaptive Transfer Learning for Plant Phenotyping.” Third International Workshop on Machine Learning for Cyber-Agricultural Systems (MLCAS-2021).

JOURNAL

18. **Jun Wu**, and Jingrui He. “A Unified Framework for Adversarial Attacks on Multi-Source Domain Adaptation.” IEEE Transactions on Knowledge and Data Engineering 35 (2023): 11039-11050.
19. **Jun Wu**, and Jingrui He. “Dynamic Transfer Learning with Progressive Meta Task Scheduler.” Frontiers in Big Data, 2022 (This article is part of “**Rising Stars in Data Mining and Management 2022**”).
20. Sheng Wang, Kaiyu Guan, Chenhui Zhang, Chongya Jiang, Qu Zhou, Kaiyuan Li, Ziqi Qin, Elizabeth A. Ainsworth, Jingrui He, **Jun Wu**, Dan Schaefer, Lowell E. Gentry, Andrew J. Margenot, Leo Herzberger. “Airborne Hyperspectral Imaging of Cover Crops through Radiative Transfer Process-Guided Machine Learning.” Remote Sensing of Environment, 2023.

LECTURE-STYLE TUTORIAL

21. **Jun Wu**, and Jingrui He. “Trustworthy Transfer Learning: Transferability and Trustworthiness.” In Proceedings of the 29th ACM SIGKDD Conference on Knowledge Discovery & Data Mining (KDD-2023).
22. **Jun Wu**, Wenxuan Bao, and Jingrui He. “Learning from Non-IID Data: Centralized vs. Federated Learning.” In Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI-2023).
23. **Jun Wu**, Wenxuan Bao, and Jingrui He. “Learning from Non-IID Data: Centralized vs. Federated Learning.” In 2022 IEEE International Conference on Big Data (BigData-2022).

INVITED TALK

24. “Trustworthy Transfer Learning.” DEFIRST Reading Group, Mila & Vector Institute, Fall 2023.

GUEST LECTURE

25. “Non-IID Transfer Learning on Graphs.” CS 6804: Machine Learning on Graphs, Virginia Tech, Spring 2023.

RESEARCH PROJECTS

- **Open-World Single-Cell RNA-seq Analysis**, UNSW Sydney *Jan. 2023 - PRESENT*
 - Investigate transfer learning techniques for open-world RNA-seq classification
 - Integrate RNA-seq collected from multiple sources into a unified feature space
- **AIFARMS**, USDA *Jan. 2020 - PRESENT*
 - Developed transfer learning algorithms for modeling transferability across species
 - Conducted agriculture analysis under diverse environments
- **Modeling Complex Adversarial Activities**, DARPA *Aug. 2018 - Dec. 2021*
 - Developed graph representation learning algorithms for modeling complex graphs
 - Helped build a computational system CANON (<https://maa.hrl.com/>)
- **Aircraft Accident Report Analysis**, NASA *Aug. 2017 - Dec. 2018*
 - Developed semi-supervised learning algorithms for imbalanced report analysis
 - Explained the accident events by identifying the key indicators

GRANT EXPERIENCE

- Participated in writing a successful NSF proposal “RareXplain: A Computational Framework for Explainable Rare Category Analysis”
- Participated in writing a successful NSF proposal “Weakly Supervised Graph Neural Networks”

TEACHING EXPERIENCE

- **Teaching Assistant, University of Illinois at Urbana-Champaign** *Spring 2022*
 - CS412: Data Mining
 - Instructor: Prof. Hanghang Tong
 - Taught recitations; created course assignments/exams; held office hours
- **Teaching Assistant, Arizona State University** *Spring 2019*
 - CSE575: Statistical Machine Learning
 - Instructor: Prof. Jingrui He
 - Mentored students for course projects; created assignments/exams; held office hours
- **Online: Statistical Machine Learning** *Spring 2018*
 - Instructor: Prof. Jingrui He, Prof. Hanghang Tong, and Prof. Baoxin Li
 - Created assignments in the Jupyter notebook

WORKING EXPERIENCE

- **Applied Scientist Intern**, Amazon Web Services (AWS), Santa Clara, CA *May 2022 - Aug. 2022*
 - Conducted deep transfer learning for visual understanding under DJL (<https://djl.ai>)
 - Implemented an adaptive transfer learning toolkit (<https://github.com/aws-labs/atlearn>)

ACADEMIC HONORS

- **Scholar Award**, NeurIPS *2023*
- **Best Reviewer Award**, KDD *2023*
- **Student Registration Award**, KDD *2023*
- **Yunni & Maxine Pao Memorial Fellowship**, The Grainger College of Engineering, UIUC *2023*
- **Conference Presentation Award**, The Grainger College of Engineering, UIUC *2023*
- **Student Travel Scholarship**, AAAI *2023*
- **Rising Stars in Data Mining and Management**, Frontiers in Big Data *2022*
- **Student Travel Grant**, CIKM *2022*
- **Student Registration Award**, KDD *2022*
- **Student Registration Award**, KDD *2021*
- **Student Travel Award**, KDD *2019*

SERVICE

SENIOR PROGRAM COMMITTEE IN CONFERENCES

1. Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI) *2024*

PROGRAM COMMITTEE IN CONFERENCES

2. Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) *2024*
3. The ACM Web Conference (TheWebConf) *2024*
4. The Twelfth International Conference on Learning Representations (ICLR) *2024*
5. The 17th ACM International Conference on Web Search and Data Mining (WSDM) *2024*
6. SIAM International Conference on Data Mining (SDM) *2024*
7. Learning on Graphs Conference (LoG) *2023*
8. The 32nd ACM International Conference on Information and Knowledge Management (CIKM) *2023*
9. Thirty-seventh Annual Conference on Neural Information Processing Systems (NeurIPS) *2023*
10. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD) *2023*
11. Fortieth International Conference on Machine Learning (ICML) *2023*
12. Proceedings of the 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) *2023*
13. The 32nd International Joint Conference on Artificial Intelligence (IJCAI) *2023*
14. The ACM Web Conference (TheWebConf) *2023*
15. IEEE International Conference on Big Data (IEEE BigData) *2023*
16. SIAM International Conference on Data Mining (SDM) *2023*
17. Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI) *2023*
18. The 16th ACM International Conference on Web Search and Data Mining (WSDM) *2023*
19. The 1st Workshop on Trustworthy Learning on Graphs (TrustLOG-CIKM) *2022*
20. The 31st ACM International Conference on Information and Knowledge Management (CIKM) *2022*
21. Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) *2022*
22. The 31st International Joint Conference on Artificial Intelligence (IJCAI) *2022*
23. Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI) *2022*
24. The 15th ACM International Conference on Web Search and Data Mining (WSDM) *2022*
25. SIAM International Conference on Data Mining (SDM) *2022*
26. The Thirty-Fourth Annual Conference on Innovative Applications of Artificial Intelligence (IAAI) *2022*
27. The 5th Workshop on Graph Techniques for Adversarial Activity Analytics (GTA3) *2021*
28. The 30th ACM International Conference on Information and Knowledge Management (CIKM) *2021*
29. The 30th International Joint Conference on Artificial Intelligence (IJCAI) *2021*
30. The Thirty-Third Annual Conference on Innovative Applications of Artificial Intelligence (IAAI) *2021*
31. The 29th International Joint Conference on Artificial Intelligence (IJCAI) *2020*
32. The 28th International Joint Conference on Artificial Intelligence (IJCAI) *2019*

EXTERNAL REVIEWER

33. The Eleventh International Conference on Learning Representations (ICLR) *2023*
34. Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS) *2022*
35. Thirty-ninth International Conference on Machine Learning (ICML) *2022*
36. The Web Conference (TheWebConf) *2022*
37. International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR) *2022*
38. Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) *2021*

39. International Conference on Artificial Intelligence and Statistics (AISTATS) *2021*
40. International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR) *2021*
41. The 14th ACM International Conference on Web Search and Data Mining (WSDM) *2021*
42. SIAM International Conference on Data Mining (SDM) *2021*
43. The Web Conference (TheWebConf) *2020*
44. Thirty-Second AAAI Conference on Innovative Applications of Artificial Intelligence (IAAI) *2020*
45. The 13th ACM International Conference on Web Search and Data Mining (WSDM) *2020*
46. The 28th ACM International Conference on Information and Knowledge Management (CIKM) *2019*
47. The 8th International Conference on Computational Data and Social Networks (CSoNet) *2019*
48. IEEE International Conference on High Performance Computing, Data, and Analytics (HIPCC) *2018*
49. IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM) *2018*

JOURNAL REVIEWER

50. Data Mining and Knowledge Discovery (DAMI)
51. ACM Transactions on Knowledge Discovery from Data (TKDD)
52. IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
53. International Journal of Computer Vision (VISI)
54. Neural Networks

SESSION CHAIR & STUDENT VOLUNTEER

55. ACM Mentor for ACM Mentorship Program, 2023
56. KDD student volunteer, 2023
57. AAAI student volunteer, 2023
58. CS Grad Ambassadors for Fall'22 grad recruiting at UIUC, 2022
59. CIKM session chair, 2022
60. KDD student volunteer, 2022
61. KDD student volunteer, 2021
62. KDD student volunteer, 2019

REFERENCES

- **Dr. Jingrui He**
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- **Dr. Jiawei Han**
 Michael Aiken Chair Professor, Department of Computer Science, University of Illinois at Urbana-Champaign
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- **Dr. Elizabeth Ainsworth**
 Research Molecular Biologist, USDA ARS Global Change and Photosynthesis Research Unit
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- **Dr. Haixun Wang**
 VP Engineering, Algorithms & Distinguished Scientist, Instacart
 - Homepage: <https://haixun.github.io/>
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