Dr. Weijia Zhang

Email: weijia.zhag.xh@gmail.com | **Mobile**: +8613840459162, +61432225335 (SMS Only)

Work Experience

Course Coordinator Jul 2019 – Sep 2020
University of South Australia. Australia
Research Fellow May 2018 - Sep 2020
University of South Australia. Australia

Education

Ph.D., Thesis: Computational Causal Discovery from Observational Data. 2014-2018
University of South Australia. Supervisor: Prof. Jiuyong Li. Australia
M.S., Thesis: Research on Multi-Instance Learning Methods with Sample Distribution Change. 2011-2014
Nanjing University. Supervisor: Prof. Zhi-Hua Zhou. China
B.S., Information and Computing Sciences. 2007-2011
Nanjing University China

Publication

Zhang, W., Non-i.i.d. multi-instance learning for predicting instance and bag labels using variational auto-encoder. In *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI-2021)*. To Appear. **(CORE-A*)**

Zhang, W., Liu, L and Li, J., Treatment effect estimation with disentangled latent factors. In *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI-2021)*. To Appear. **(CORE-A*)**

Zhang, W., Liu, L and Li, J., A unifying review on treatment effect heterogeneity modelling and uplift modelling. *arXiv: 2007.12769 (2021).*

Li, J., **Zhang, W.**, Liu, L., Yu, K., Le, T. and Liu, J., A general framework for causal classification. *International Journal of Data Science and Analytics, 11:127–139(2021).*

Zhang, W., Li, J. and Liu, L., Distribution robust multi-instance learning with stable instances. In *Proceedings of the 24th European Conference of Artificial Intelligence (ECAI-2020).* **(CORE-A)**

Tomasoni, M., Gómez, S., Crawford, J., **Zhang, W.**, Choobdar, S., Marbach, D. and Bergmann, S., MONET: a toolbox integrating top-performing methods for network modularisation. *Bioinformatics*. 36(12): 3920–3921 (2020). **(Impact Factor: 5.48)**

Choobdar, S., et al., Assessment of network module identification across complex diseases. *Nature Methods*. 16: 843–852 (2019). **(Impact Factor: 28.47, Consortium Author)**

Zhang, **W.**, Le, T., Liu, L., and Li, J., Estimating heterogeneous treatment effects by balancing heterogeneity and fitness. *BMC Bioinformatics*, 19: 514 (2018). **(Impact Factor: 3.24))**

Xu, T., Su, N., Liu, L., Zhang, J., Wang, H., **Zhang, W.**, Gui, J., Yu, K., Li, J. and Le, T., miRBaseConverter: An R/Bioconductor package for converting and retrieving miRNA information in different versions of miRbase. *BMC Bioinformatics,* 19: 518 (2018). **(Impact Factor: 3.24)**

Zhang, **W.**, Le, T., Liu, L., Zhou, Z.-H., and Li, J., Mining heterogeneous causal effects for personalized cancer treatment. *Bioinformatics*, 33(15): 2372-2378 (2017). **(Impact Factor: 5.60)**

Zhang, W., Le, T., Liu, L., Zhou, Z.-H. and Li, J., Predicting miRNA targets by integrating gene regulatory knowledge with expression profiles. *PLOS One*, 11(4): e0152860 (2016). **(Impact Factor: 2.78)**

Zhang, W. and Zhou, Z.-H., Multi-Instance Learning with Distribution Change. In *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI-2014)*, pages 2184–2190. **(CORE-A*)**

Teaching

Course Coordinator & Lecturer, Predictive Analytics, UniSA, 2020.

Course Coordinator & Lecturer, Unsupervised Methods in Analytics, UniSA, 2019.

Lecturer & Practical Supervisor, Data and Web Mining, UniSA, 2018, 2020.

Teaching Assistant, Data Structures and Algorithms, Nanjing University, 2014.

Student Supervision

Wang, S., Visiting PhD, UniSA, Zero-shot domain adaption with causal domain knowledge.

Zou, M., Visiting PhD, UniSA, Individual treatment effect estimation from observational data.

Industry Experiences

Santos, Ltd. 2018.5-2019.5. I designed, implemented and deployed an autonomous fault detection system for the progressive cavity pumps in CSG wells. Evaluations by production engineers demonstrate that the system significantly reduced the need for human intervention in well operations and reduced the maintenance costs.

Telstra, Co. Ltd. 2017.9-2018.2. I designed and implemented customer churn prevention system for post-paid mobile customers. Analyzed unlabeled large data from Telstra 24x7 online chat platform, improved customer satisfaction and reduced operating costs for the platform. Provided evidence-based suggestions to management.

Awards and prizes

2nd Place, 3 Minute Thesis Competition (3MT®), School of Information Technology and Mathematical Science, University of Australia, 2016.

2nd Place, Team Leader, DREAM Data Mining Challenge on Disease Module Identification, 2016.

University President's Scholarship, University of South Australia, 2014.

ITMS Scholarship, University of South Australia, 2014.

Best Master Thesis Award, Department of Computer Science and Technology, Nanjing University, 2014.

Academic Services

I have served as program committee members and reviewers for academic journal and conferences, including:

- Program Committee Member: AAAI-2021, IJCAI-2020, ECAI-2020, AusDM-2019/2018, KDD 2019/2018, etc.
- Conference Reviewer: AAAI 2020/2019/2018/2017, KDD-2019/2018/2017/2016, CKIM-2019/2018/2017/2016, WSDM-2019, etc.
- Journal Reviewer: Bioinformatics, PLOS One, BMC Bioinformatics, Journal of Computer Science and Information Technology, Journal on Wireless Communications and Networking, etc.

Invited Talks

Treatment effect estimation with disentangled latent factors, AAAI Conference, Virtual, Worldwide.

Robust multi-instance learning with stable instances, ECAI Conference, Santiago de Compostela, Spain.

Robust learning changing environments, Harbin Institute of Technology. Harbin, China.

Estimating treatment effect by balancing heterogeneity and fitness, GIW Conference, Kunming, China.

Multi-instance learning with distribution change, AAAI Conference, Québec, Canada.