

Dr. Daokun Zhang
Department of Data Science & AI
Monash Data Futures Institute
Email: Daokun.Zhang@monash.edu



Biography

Daokun Zhang is currently a Level B Research Fellow with Department of Data Science & AI, Faculty of Information Technology, Monash University, Australia. Prior to that, he was an Adjunct Lecturer at Monash University Suzhou Campus from April 2021 to August 2022, and he ever worked as a Postdoctoral Research Associate at The University of Sydney Business School from June 2019 to April 2021. In November 2019, Dr. Zhang received his Ph.D degree in data science from the University of Technology Sydney, NSW, Australia.

Qualifications

Data Science, Ph.D degree, Augmented Network Embedding in Attributed Graphs
Award Date: 12 Nov 2019

Research outputs

Surformer: An interpretable pattern-perceptive survival transformer for cancer survival prediction from histopathology whole slide images

Wang, Z., Gao, Q., Yi, X., Zhang, X., Zhang, Y., Zhang, D., Lio, P., Bain, C. A., Basset, R., Li, S., Guo, Y., Imoto, S., Yao, J., Daly, R. J. & Song, J., Nov 2023, In: *Computer Methods and Programs in Biomedicine*. 241, 12 p., 107733.

Link prediction with contextualized self-supervision

Zhang, D., Yin, J. & Yu, P. S., 1 Jul 2023, In: *IEEE Transactions on Knowledge and Data Engineering*. 35, 7, p. 7138-7151 14 p.

The application of artificial intelligence to accelerate G protein-coupled receptor drug discovery

Nguyen, A. T. N., Nguyen, D. T. N., Koh, H. Y., Toskov, J., MacLean, W., Xu, A., Zhang, D., Webb, G. I., May, L. T. & Halls, M. L., 10 May 2023, (Accepted/In press) In: *British Journal of Pharmacology*. 14 p.

Spectral Dual-Channel Encoding for image dehazing

Zhu, Z., Zhang, D., Wang, Z., Feng, S. & Duan, P., 5 Apr 2023, (Accepted/In press) In: *IEEE Transactions on Circuits and Systems for Video Technology*. 14 p.

Tuning the mechanical anisotropy of biphenylene by boron and nitrogen doping

Ren, X., Wang, K., Yu, Y., Zhang, D., Zhang, G. & Cheng, Y., 5 Apr 2023, In: *Computational Materials Science*. 222, 5 p., 112119.

Learning urban region representations with POIs and hierarchical graph infomax

Huang, W., Zhang, D., Mai, G., Guo, X. & Cui, L., Feb 2023, In: *ISPRS Journal of Photogrammetry and Remote Sensing*. 196, p. 134-145 12 p.

Beyond smoothing: Unsupervised graph representation learning with edge heterophily discriminating

Liu, Y., Zheng, Y., Zhang, D., Lee, V. CS. & Pan, S., 2023, *Proceedings of the 37th AAAI Conference on Artificial Intelligence*. Williams, B., Chen, Y. & Neville, J. (eds.). Washington DC USA: Association for the Advancement of Artificial Intelligence (AAAI), p. 4516-4524 9 p. (Proceedings of the AAAI Conference on Artificial Intelligence; vol. 37, no. 4).

Sample and feature enhanced few-shot knowledge graph completion

Zhang, K., Zhang, D., Liu, N., Yang, Y., Xu, Y., Li, H. & Cui, L., 2023, *28th International Conference, DASFAA 2023 Tianjin, China, April 17-20, 2023 Proceedings, Part II*. Wang, X., Sapino, M. L., Han, W-S., El Abbadi, A., Dobbie, G., Feng, Z., Shao, Y. & Yin, H. (eds.). Cham Switzerland: Springer, p. 800-809 10 p. (Lecture Notes in Computer Science ; vol. 13944).

Estimating urban functional distributions with semantics preserved POI embedding

Huang, W., Cui, L., Chen, M., Zhang, D. & Yao, Y., 8 Mar 2022, In: *International Journal of Geographical Information Science*. 36, 10, p. 1905-1930 26 p.

Conflict-aware Pseudo Labeling via Optimal Transport for entity alignment

Ding, Q., Zhang, D. & Yin, J., 2022, *Proceedings - 22nd IEEE International Conference on Data Mining, ICDM 2022*. Zhu, X., Ranka, S., Thai, M. T., Washio, T. & Wu, X. (eds.). Piscataway NJ USA: IEEE, Institute of Electrical and Electronics Engineers, p. 915-920 6 p. (Proceedings - IEEE International Conference on Data Mining, ICDM; vol. 2022-November).

Towards unsupervised deep graph structure learning

Liu, Y., Zheng, Y., Zhang, D., Chen, H., Peng, H. & Pan, S., 2022, *WWW 2022 - Proceedings of the ACM Web Conference 2022*. Simperl, E., Agarwal, D. & Gionis, A. (eds.). New York NY USA: Association for Computing Machinery (ACM), p. 1392-1403 12 p.

Search efficient binary network embedding

Zhang, D., Yin, J., Zhu, X. & Zhang, C., Jun 2021, In: *ACM Transactions on Knowledge Discovery from Data*. 15, 4, 27 p., 3436892.

Personality traits prediction based on sparse digital footprints via discriminative matrix factorization

Wang, S., Zhang, D., Cui, L., Lu, X., Liu, L. & Li, Q., 2021, *Database Systems for Advanced Applications: 26th International Conference, DASFAA 2021 Taipei, Taiwan, April 11–14, 2021 Proceedings, Part II*. Jensen, C. S., Lim, E-P., Yang, D-N., Lee, W-C., S. Tseng, V., Kalogeraki, V., Huang, J-W. & Shen, C-Y. (eds.). Cham Switzerland: Springer, p. 692-700 9 p. (Lecture Notes in Computer Science; vol. 12682).

Network representation learning: A survey

Zhang, D., Yin, J., Zhu, X. & Zhang, C., 25 Jun 2020, In: *IEEE Transactions on Big Data*. 6, 1, p. 3-28 26 p.

Attributed network embedding via subspace discovery

Zhang, D., Yin, J., Zhu, X. & Zhang, C., Nov 2019, In: *Data Mining and Knowledge Discovery*. 33, 6, p. 1953-1980 28 p.

MetaGraph2Vec: complex semantic path augmented heterogeneous network embedding

Zhang, D., Yin, J., Zhu, X. & Zhang, C., 2018, *Advances in Knowledge Discovery and Data Mining: 22nd Pacific-Asia Conference, PAKDD 2018 Melbourne, VIC, Australia, June 3–6, 2018 Proceedings, Part II*. Phung, D., Tseng, V. S., Webb, G. I., Ho, B., Ganji, M. & Rashidi, L. (eds.). Cham Switzerland: Springer, p. 196-208 13 p. (Lecture Notes in Computer Science; vol. 10938).

SINE: Scalable Incomplete Network Embedding

Zhang, D., Yin, J., Zhu, X. & Zhang, C., 2018, *2018 IEEE International Conference on Data Mining (ICDM 2018)*. Tao, D. & Thuraisingham, B. (eds.). Piscataway NJ USA: IEEE, Institute of Electrical and Electronics Engineers, p. 737-746 10 p. (Proceedings - IEEE International Conference on Data Mining, ICDM; vol. 2018-November).

User Profile Preserving Social Network Embedding

Zhang, D., Yin, J., Zhu, X. & Zhang, C., 2017, *Proceedings of the Twenty-Sixth International Joint Conference on Artificial Intelligence*. Sierra, C. (ed.). Marina del Rey CA USA: Association for the Advancement of Artificial Intelligence (AAAI), p. 3378-3384 7 p.

Collective classification via discriminative matrix factorization on sparsely labeled networks

Zhang, D., Yin, J. & Zhu, X., 2016, *CIKM 2016 - Proceedings of the 2016 ACM Conference on Information and Knowledge Management*. Association for Computing Machinery (ACM), p. 1563-1572 10 p. (International Conference on Information and Knowledge Management, Proceedings; vol. 24-28-October-2016).

Homophily, structure, and content augmented network representation learning

Zhang, D., Yin, J., Zhu, X. & Zhang, C., 2016, *Proceedings - 16th IEEE International Conference on Data Mining, ICDM 2016*. Bonchi, F., Wu, X., Baeza-Yates, R., Domingo-Ferrer, J. & Zhou, Z-H. (eds.). IEEE, Institute of Electrical and Electronics Engineers, p. 609-618 10 p. 7837885. (Proceedings - IEEE International Conference on Data Mining, ICDM).

