HANSHENG XUE

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Jeffrey Cheah Biomedical Centre, Puddicombe Way, Cambridge Biomedical Campus, CB2 0AW

EDUCATION AND TRAINING

The University of Cambridge — Cambridge, U.K.
Research Associate at Cambridge Stem Cell Institute — Mar. 2025 - Now
Supervisor: Sarah A. Teichmann

The Australian National University — Canberra, Australia
Ph.D. in Computer Science — Sep. 2019 - Jun. 2024
Supervisor: Yu Lin, Vaibhav Rajan (NUS), and Lexing Xie.

Harbin Institute of Technology — Shenzhen, China
M.Eng. in Computer Science — Sep. 2015 - Jan. 2018

Nanjing Tech University — Nanjing, China
B.M. in Electronic Commerce — Sep. 2011 - Jun. 2015

RESEARCH AND INDUSTRY EXPERIENCE

Research Assistant, School of Computing, National University of Singapore, Singapore. — Nov. 2023 - Jul. 2024
Research Intern, Alibaba Group, Hangzhou, China. — May 2020 - Feb. 2021

SELECTED PUBLICATIONS

(†: Co-first author, ‡: Corresponding author.) [Google Scholar, DBLP]

[1] **Hansheng Xue**, Vijini Mallawaarachchi, Lexing Xie, and Vaibhav Rajan, "Encoding Unitig-level Assembly Graphs with Heterophilous Constraints for Metagenomic Contigs Binning", *ICLR'24*: Twelfth International Conference on Learning Representations, 2024. [Full paper, Acceptance rate of 31%.]

[2] Aishwarya Jayagopal, **Hansheng Xue**, Ziyang He, Robert John Walsh, Krishna Kumar Hariprasannan, David Shao Peng Tan, Tuan Zea Tan, Jason J. Pitt, Anand D Jeyasekharan, and Vaibhav Rajan, "Personalised Drug Identifier for Cancer Treatment with Transformers using Auxiliary Information", *KDD'24*: 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2024. [Applied data science track, Acceptance rate of 20%.]

[3] **Hansheng Xue**, Vaibhav Rajan, and Yu Lin, "Graph Coloring via Neural Networks for Haplotype Assembly and Viral Quasispecies Reconstruction", *NeurIPS'22*: Thirty-sixth Conference on Neural Information Processing Systems, 2022. [Full paper, Acceptance rate of 25.6%.]

[4] **Hansheng Xue,** Vijini Mallawaarachchi, Yujia Zhang, Vaibhav Rajan, and Yu Lin, "RepBin: Constraint-Based Graph Representation Learning for Metagenomic Binning", *AAAI'22*: Thirty-Sixth AAAI Conference on Artificial Intelligence, 2022. [Full paper, Acceptance rate of 15%, Oral Presentation (<5%).]

[5] **Hansheng Xue**, Luwei Yang, Vaibhav Rajan, Wen Jiang, Yi Wei, and Yu Lin, "Multiplex Bipartite Network Embedding using Dual Hypergraph Convolutional Networks", *WWW'21*: 30th International World Wide Web Conference, 2021. [Full paper, Acceptance rate of 20.6%.]

[6] **Hansheng Xue**†, Luwei Yang†, Wen Jiang, Yi Wei, Yi Hu, and Yu Lin, "Modeling Dynamic Heterogeneous Network for Link Prediction using Hierarchical Attention with Temporal RNN", *ECML-PKDD'20*: European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Database, 2020. [Full paper, Acceptance rate of 19%.]

[7] Jiajie Peng†, **Hansheng Xue**†, Zhongyu Wei, Idil Tuncali, Jianye Hao, and Xuequn Shang, "Integrating Multi-network Topology for Gene Function Prediction using Deep Neural Networks", *Briefings in Bioinformatics*, 2021.

PROFESSIONAL SERVICE

Journal Reviewer: Briefings in Bioinformatics(x5), BMC Bioinformatics(x3), BMC Genomics(x2), PLOS ONE(x2), International Journal of Machine Learning and Cybernetics(x2), Artificial Intelligence Review(x1), IEEE/ACM TCBB(x1), BioData Mining(x1), Frontiers in Neuroscience(x1), Communications Biology(x1).

Program Committee/Conference Reviewer: ICLR'25, KDD'25, AAAI'25/24/23, IJCAI'25/24/23, AISTATS'25/24, LOG'24, NeurIPS- TGL'23, RECOMB-CG'21, ECML-PKDD'20, IEEE BIBM-BiOK'21/20/19.

TEACHING EXPERIENCE

Guest Lecturer for Database Systems, Shandong University (ANU/SDUW Joint Program), China. — Autumn 2023
Tutor for Statistics Machine Learning, Australian National University, Canberra, Australia. — Feb. 2023 - Jun. 2023

SELECTED HONORS AND AWARDS

AAAI Student Scholarship — 2022
ANU PhD Scholarship (International) — 2019
Outstanding Thesis Award (First Prize, top 1%), Bachelor's Degree Thesis Competition of Jiangsu Province, China — 2015
Meritorious Winner, MCM/ICM: Mathematical Contest in Modeling and Interdisciplinary Contest in Modeling — 2014