# HANSHENG XUE

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## EDUCATION

The Australian National University — Canberra, Australia
*Ph.D. in Computer Science* — Sep. 2019 - Jul. 2024
Supervisor: Yu Lin, Vaibhav Rajan (NUS), and Lexing Xie.
Thesis: Graph Representation Learning for Structured Data and Genomic Analysis.

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

Nanjing Tech University — Nanjing, China
*B.M. in E-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

## 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*.

[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*.

[3] Hansheng Xue, Vaibhav Rajan, and Yu Lin, "Graph Coloring via Neural Networks for Haplotype Assembly and Viral Quasispecies Reconstruction", *NeurIPS'22*.

[4] Hansheng Xue, Vijini Mallawaarachchi, Yujia Zhang, Vaibhav Rajan, and Yu Lin, "RepBin: Constraint-Based Graph Representation Learning for Metagenomic Binning", *AAAI'22*.

[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*.

[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*.

[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*, 2020.

## PROFESSIONAL SERVICE

Organizing Committee: ANU Workshop on Computational Genomics, Canberra, Aug. 2023.

Journal Reviewer: Briefings in Bioinformatics(x4), BMC Genomics(x2), BMC Bioinformatics(x2), Artificial Intelligence Review(x1), IEEE/ACM TCBB(x1), BioData Mining(x1), PLOS ONE(x1), Frontiers in Neuroscience(x1).

Program Committee/Reviewer: AAAI'25/24/23, IJCAI'24/23, AISTATS'24, NeurIPS-TGL'23, ECML-PKDD'20.

## 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
First Prize Award, Bachelor's Degree Thesis Competition of Jiangsu Province, China (Top 1%) — 2015

## INVITED TALKS AND POSTER PRESENTATIONS

1. *Encoding Unitig-level Assembly Graphs with Heterophilous Constraints for Metagenomic Contigs Binning*, ICLR, Vienna Austria, May 2024.

2. *Metagenomic Binning using Graph Neural Networks*, ISMB/ECCB Microbiome, Lyon, France, Jul. 2023.

3. *Graph Coloring via Neural Networks for Haplotype Assembly and Viral Quasispecies Reconstruction*, NeurIPS, Virtual, Dec. 2022.

4. *RepBin: Constraint-Based Graph Representation Learning for Metagenomic Binning*, AAAI, Virtual, Feb. 2022.

5. *Multiplex Bipartite Network Embedding using Dual Hypergraph Convolutional Networks*, WWW, Virtual, Apr. 2021.