Xingyue Huang

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Research Interest

Graph Neural Networks, Knowledge Graphs, Graph Representation Learning, Deep Learning

Education

University of Oxford 09/2023 – Present
DPhil in Computer Science Oxford, United Kingdom
Supervised by Prof. Michael Bronstein and Dr. İsmail Ceylan

University of Oxford 09/2019 – 06/2023
MMathCompsci in Mathematics and Computer Science Oxford, United Kingdom
Graduated with Distinction

Selected Publications

First Author of Learning to Learn Relations on Knowledge Graphs Under Review for ICLR 2025
Expressivity study of knowledge graph foundation model and developing framework equipped with arbitrary motifs.

First Author of Link Prediction with Relational Hypergraphs Under Review for ICLR 2025
Applying conditional message passing for link prediction on fully relational data with expressiveness guarantee

Author of One Model, Any Conjunctive Query: GNNs for Answering Complex Queries over Knowledge Graphs
Under Review for LOG 2024
A generalizable neuro-symbolic framework based on GNNs for answering arbitrary conjunctive queries
Author of Cooperative Graph Neural Networks ICML 2024
A dynamic and flexible message-passing paradigm in which each node can choose a different communication strategy

First Author of A Theory of Link Prediction via Relational Weisfeiler-Leman on Knowledge Graph NeurIPS 2023
Theoretical expressiveness study for advanced link prediction models on knowledge graphs

Author of A Novel Multiobjective Genetic Programming Approach to Cancer Diagnosis through Microarray Data
IEEE Transaction on Cybernetic
Multi-objective genetic programming framework for high-dimensional classification, addressing existing limitations.

First Author of Feature Selection of High Dimensional Data by Adaptive Potential Particle Swarm Optimization
IEEE CEC 2019
Proposing a novel Particle Swarm Optimization with feature pre-filtering and adaptive cut-point selection.

Professional Experience

Mathematical Institute, University of Oxford 06/2022 – 09/2022
Summer Research Intern Oxford, United Kingdom

- Enhanced the capability of the Alphafold with rough path theory and Neural Control Differential Equation.
- Developed a deep-learning based signature-inverse model to reduce the complexity of standard signature inversion

Alibaba Group 07/2021 – 09/2021
Machine Learning Engineer Intern Hangzhou, China

- Developed an object detection system for video subtitle-detection with Faster-RCNN model
- Conducted semantic analysis on OCR-detected titles to assess the quality of video descriptions
- Improved accuracy of object detection and classification by 10% and were incorporated into production

Alirus Biotech. 06/2020 – 09/2020
Machine Learning Engineer Intern Shenzhen, China

- Developed a colony counting algorithm by combining CNNs with Hough Transform
- Delivered a model for automatic colony counting with 20% decreased in terms of regression metric