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 09/2022 – 06/2023
MS in Mathematics and Computer Science Oxford, United Kingdom
Graduated with Distinction

University of Oxford 09/2019 – 06/2022
BA in Mathematics and Computer Science Oxford, United Kingdom

Selected Publication

First author of **Link Prediction with Relational Hypergraphs**
Under Review for NeurIPS 2024

Author of **Cooperative Graph Neural Networks**
ICML 2024

First author of **A Theory of Link Prediction via Relational Weisfeiler-Leman on Knowledge Graph**
NeurIPS 2023

Author of **A Novel Multiobjective Genetic Programming Approach to Cancer Diagnosis through Microarray Data**
IEEE Transactions on Cybernetics

Co-first author of **Feature Selection of High Dimensional Data by Adaptive Potential Particle Swarm Optimization**
IEEE CEC 2019

Professional Experience

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

- Explored the use of the Neural Control Differential Equation model to address the problem of protein folding
- Enhanced the capability of the Alphafold with rough path theory
- 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

- Implemented image segmentation for Petri dish centering and Hough Transform for colony ROI detection
- Developed a colony counting algorithm by combining CNNs with traditional computer vision techniques
- Delivered a model for automatic colony counting with 20% decreased in terms of regression metric

Skills

Programming: Python (Pytorch, Tensorflow), MATLAB, Haskell, Scala, LaTeX