WANG Xiasi

+(86)15156017806 • xwangfy@connect.ust.hk

Education Background

The Hong Kong University of Science and Technology

Ph.D. in Data Science and Analytics *2020.09 – 2024.06*

GPA: 3.881/4.30

Related Courses: Statistical Machine Learning, Deep Learning, Data Mining

Research interests: Machine Learning, Self-Supervised Learning

University of Science and Technology of China

Bachelor of Science in Statistics *2016.09 – 2020.06*

GPA: 3.45/4.30

Related Courses: Probability, Mathematical Statistics, Regression Analysis, Multivariate Analysis, Time Series Analysis, Real Analysis, Functional Analysis, Statistical Software, Mathematical Modeling

Research Projects

Research on Systemic Risk Contagion in Financial Networks

Department of Statistics and Finance, School of Management, USTC *2019.07 – 2020.01*

- Learn a risk contagion model for financial networks which triggers the contagion before default
- Construct a liability matrix of a Chinese bank network by assigning prior distributions to banks' connection probabilities and weights of their connections for the Gibbs Sampler
- Explore the model's sensitivity to its parameters, impose stress tests to the Chinese bank network and discover the main causes of changes of contagion losses of the past ten years
- **Publication:** Solvency Contagion Risk in the Chinese Commercial Bank Network, *Physica A*, 2021

Research on Contrastive Learning

Data Science and Analytics, Information Hub, HKUST *2021.12 – 2022.04*

- Focus on the selection criterion of negative samples in contrastive learning
- Find that the semi-hard negatives plays an important part in contrastive learning since easy negatives provides negligible gradients and hard negatives suffer from the false negative problem
- Discover an exponential decaying relation of hardness v.s. false rate, propose a hardness-aware debiasing method based on it to mitigate the side effect of false negatives
- **Submission:** Hardness-Aware Contrastive Learning, 2022

Internship Experience

Artificial Intelligence Algorithm Research Intern

Noah's Ark Lab, Huawei Technologies Co., Ltd, Shenzhen *2022.04 – Present*

- Focus on self-supervised learning, investigate the multi-view perspective of self-supervised learning in computer vision systematically
- Develop the Multi-View Entropy Bottleneck method to obtain the minimal sufficient representation
- Validate the superiority of MVEB on ImageNet linear evaluation (state-of-the-art so far) and extensive downstream tasks including transfer learning and object detection
- **Submission:** MVEB: Self-Supervised Learning with Multi-View Entropy Bottleneck, 2022

Honors and Scholarships

- Full Postgraduate Scholarship, HKUST *2020 – 2024*
- Outstanding graduate student, USTC *2020*
- Outstanding Undergraduate Scholarship, USTC *2017, 2018, 2019*

Skills

- Computer Languages & Tools: Python, R, C, MATLAB, LaTeX
- Language: GRE: 322+4.0 (Verbal 152 Quant 170)