

Wentao Ning

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EDUCATION

The University of Hong Kong (HKU)

Ph.D. in Computer Science

Hong Kong SAR

2020–2024 (Expected)

- HKU-SUSTech Joint PhD Program. Supervisors: Reynold Cheng (HKU), Bo Tang (SUSTech)
- Research Interests: Recommender System, Graph Neural Networks, Data Mining

Southern University of Science and Technology (SUSTech)

B.S. in Computer Science, GPA: 3.73/4.00

Shenzhen, China

2016–2020

- Thesis: “Public Transportation Scheduling Evaluation: A Data-Driven Approach”

INTERNSHIP

TCL Corporate Research(HK) Co., Ltd

Research Intern

Hong Kong, China

Jun. - Aug., 2021

- Proposed an automatic effective meta-path searching framework for existing meta-path-based recommenders.
- Proposed a GNN-based method for recommendation by using meta-paths.

Huawei Technologies Co., Ltd.

Site Reliability Engineer Intern

Dongguan, China

Jul. - Aug., 2019

- Mainly engaged in monitoring system development. Implemented a load anomaly alert and email notification system.
- Completed 17 instructing documents, 3 demo (database migration tool, monitoring interface customization, key data query and alarm service) and 5 improvement suggestions.

RESEARCH PROJECTS

- **Improving Multi-domain Recommendation with Disentanglement and Domain Alignment**
 - This work was submitted to **TheWebConf (WWW) 2023**.
 - Propose a disentangled graph neural network framework *DisGCN*, which can explicitly disentangle domain-specific and domain-independent features of users and items.
 - Propose a random walk-based domain alignment method to handle the over-fitting problem caused by the lack of data and better utilize the information from other domains, which further improves the performance of our model.
- **Automatic Meta-Path Discovery for Effective Graph-Based Recommendation**
 - This work was accepted by **CIKM 2022**.
 - Propose a general reinforcement learning-based meta-path selection framework *RMS*, which is the first framework that can be plugged into any meta-path-based recommendation models.
 - Develop a new meta-path-based recommendation method *RMS-HRec* and design training strategies to fully explore the potential of meta-paths for recommendation tasks.
- **Towards Efficient MaxBRNN Computation for Streaming Updates**
 - This work was accepted by **ICDE 2021**.
 - Propose a novel problem called *streaming MaxBRNN* in spatial database area, which finds the optimal region to deploy a new service point when both the service points and client points are under continuous updates.
 - Devise an efficient slot partitioning-based algorithm (*SlotP*), which divides the space into equal-sized slots and processes each slot independently. Our experiments show that *SlotP* is 2-3 orders of magnitude faster than state-of-the-art baselines.

- **CheetahVIS: A Visual Analytical System for Large Urban Bus Data.**
 - This work was accepted by VLDB 2020.
 - Built a visual analytical system *CheetahVIS* for efficient massive urban bus data analysis, which builds upon Spark and provides a visual analytical platform for the stakeholders (e.g., city planner, data analysts in bus company) to conduct effective and efficient analytical tasks.

PUBLICATIONS

1. **Wentao Ning**, Reynold Cheng, Jiajun Shen, Nur Al Hasan Haldar, Ben Kao, Xiao Yan, Nan Huo, Tian Li, Wai Kit Lam, Bo Tang. **Automatic Meta-Path Discovery for Effective Graph-Based Recommendation.** In 31st ACM International Conference on Information and Knowledge Management (CIKM), 2022.
2. Reynold Cheng, Chenhao Ma, Xiaodong Li, Yixiang Fang, Ye Liu, Victor Y.L. Wong, Esther Lee, Tai Hing Lam, Sai Yin Ho, Man Ping Wang, Weijie Gong, **Wentao Ning**, Ben Kao. **The Social Technology and Research (STAR) Lab in the University of Hong Kong.** ACM SIGMOD Record, 2022.
3. **Wentao Ning**, Xiao Yan, and Bo Tang. **“Towards Efficient MaxBRNN Computation for Streaming Updates.”** 2021 IEEE 37th International Conference on Data Engineering (ICDE), 2021.
4. **Wentao Ning**, Qiandong Tang, Yi Zhao, Chuan Yang, Xiaofeng Wang, Teng Wang, Haotian Liu, Chaozu Zhang, Zhiyuan Zhou, Qiaomu Shen, and Bo Tang. **“CheetahVIS: a visual analytical system for large urban bus data.”** Proc. VLDB Endow (PVLDB), 2020.

SCHOLARSHIPS AND AWARDS

- | | |
|--|-----------|
| • Postgraduate Scholarship | 2020–2024 |
| • Outstanding Graduate in Department of Computer Science and Engineering | 2020 |
| • Outstanding Graduate in Shuli College | 2020 |
| • Outstanding UG Teaching Assistant | 2019 |
| • Outstanding Students Scholarship | 2017–2019 |
| • Outstanding Freshmen Scholarship | 2016 |

TEACHING

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|---|-------------|
| • Teaching Assistant at The University of Hong Kong
<i>The Age of Big Data (CCST9047)</i> | Spring 2021 |
| • Teaching Assistant at Southern University of Science and technology
<i>Operating System (CS302)</i> | Spring 2020 |
| • Teaching Assistant at Southern University of Science and technology
<i>Object Oriented Analysis and Design (CS309)</i> | Fall 2019 |
| • Teaching Assistant at Southern University of Science and technology
<i>Data Structure and Algorithm Analysis (B) (CS203B)</i> | Fall 2018 |

ACADEMIC SERVICE

- **Reviewer / External Reviewer**
 - **AAAI 2022:** AAAI Conference on Artificial Intelligence
 - **ICDE 2022:** IEEE International Conference on Data Engineering
 - **SIGKDD 2021, 2022:** Conference on Knowledge Discovery and Data Mining
 - **CIKM 2021, 2022:** ACM International Conference on Information and Knowledge Management
 - **TKDE 2020:** IEEE Transactions on Knowledge and Data Engineering

SKILLS

- **Programming:** Python, Java, C++, SQL
- **Tools:** Pytorch, Numpy, Jupyter

LANGUAGES

- **Mandarin:** Native, **Cantonese:** Proficient
- **English:** Fluent