Tinglin Huang

Visiting Student, Tsinghua University

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Education

Tsinghua University — Beijing, China
Visiting student at Department of Computer Science and Technology — *Dec. 2020 - Present*
- **Advisor:** Prof. *Jie Tang*

Zhejiang University — Hangzhou, China
M.Eng. in Software Engineering — *Sep. 2019 - Present*
- **Advisor:** Prof. *Xinyu Wang*

Shenzhen University — Shenzhen, China
B.Eng. in Software Engineering with honor — *Sep. 2015 - Jun. 2019*
- **GPA:** 3.96/4.5 **Ranking:** Top 5%

Research Interests

Data Mining: Recommendation System, Network Embedding
Machine Learning: Graph Neural Network, Self-Supervised Learning

Publications

Tinglin Huang, Yuxiao Dong, Ming Ding, Zhen Yang, Wenzheng Feng, Xinyu Wang, Jie Tang. "MixGCF: An Improved Training Method for Graph Neural Network-based Recommender Systems". In *Conference on Knowledge Discovery and Data Mining (KDD)*, 2021

Xiang Wang*, **Tinglin Huang***, Dingxian Wang, Yancheng Yuan, Zhenguang Liu, Xiangnan He and Tat-Seng Chua. "Learning Intents behind Interactions with Knowledge Graph for Recommendation". In *International World Wide Web Conferences (WWW)*, 2021 (**Oral Presentation, Best Paper Shortlist**)

Tinglin Huang, Yinlin He, Dexin Dai, Wenting Wang, Joshua Zhexue Huang. "Neural Network-Based Deep Encoding for Mixed-Attribute Data Classification". In *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2019

Yingying Zhu, Min Tong, **Tinglin Huang**, Zhengkun Wen, Qi Tian. "Learning Affective Features Based on VIP for Video Affective Content Analysis". In *Pacific Rim Conference on Multimedia (PCM)*, 2018

Awards & Achievements

Excellent graduate scholarship of Zhejiang University — *Jun. 2021*
Excellent graduates of Shenzhen University — *Jun. 2019*
Four years of Merit Scholarship — *Sep. 2016 ,2018, 2019*
2nd Prize, Chinese Undergraduate Mathematics Contest in Modeling — *Jul. 2018*
3rd Prize, Chinese Undergraduate Computer Design Contest — *Sep. 2017*

Research Experience

Knowledge Engineering Group — Tsinghua University
Advisor : Prof. *Jie Tang* and Dr. *Yuxiao Dong* — *Dec. 2020 - Present*

MixGCF: An Improved Training Method for Graph Neural Network-based Recommender Systems
- Given a user, the task of collaborative filtering (CF) is to provide a ranked list of items, where a fundamental challenge is to distill negative signals from the implicit feedback.
- Explored a general negative sampling plugin (MixGCF) for Graph Neural Network based CF method, which applies the hop mixing technique to synthesize hard negatives rather than

sampling existing ones.

- Experimental results show that MixGCF yields the best performance over the other baseline models, with which the GNN-based recommender can be significant improved, e.g., 26% for LightGCN on NDCG@20.

NExT++ Center National University of Singapore

Advisor : Prof. *Tat-Seng Chua* and Dr. *Xiang Wang* *May. 2020 - Nov. 2020*

Learning Intents behind Interactions with Knowledge Graph for Recommendation

- Proposed a knowledge graph-based recommendation model, KGIN, which consider user-item relationships at the finer granularity of intents and long-range semantics of relational paths under the GNN paradigm.
- Empirical studies show that KGIN achieves significant improvements across three benchmark datasets in terms of all measures, w.r.t. NDCG@20 by 14.51%, 13.97%, and 5.91% in Amazon-Book, Last-FM, and Alibaba-iFashion, respectively.