Kelong Mao

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Education

Renmin University of China & Université de Montréal 09/2021 – 06/2025 (expected)

Joint Ph.D. Program. Artificial Intelligence in RUC and Computer Science in UdeM

Tsinghua University 09/2018 – 06/2021

M.Eng. in Computer Technology

Nankai University 09/2014 – 06/2018

B.Eng. in Computer Science and Technology

Experience

Huawei Poisson Lab Beijing, China

Research Intern 03/2022 – Present

- Studying on conversational search, especially conversational passage retrieval. Ongoing.

Bytedance, Tiktok Search Group Beijing, China

Algorithm Intern 01/2021 – 05/2021

- Developed "search after watch" and "re-search" features for personalized micro-video CTR prediction based on self-attention for Tiktok.

Huawei Noah's Ark Lab Shenzhen, China

Research Intern, Advisor: Dr. Jieming Zhu 12/2019 – 07/2020

- Proposed *UltraGCN*, an efficient GNN-based recommendation model that directly mimics the effect of infinite-layer message passing to learn various user-item relationships more flexibly. Published in CIKM'21.
- Aroused the recommendation community's concern about the loss function. Proposed a Cosine Contrastive Loss and a strong baseline *SimpleX* which achieved SOTA performance with extremely simple architecture. Published in CIKM'21.
- Proposed *TagGNN*, a heterogeneous graph neural network for more accurate item tagging under IR scenarios. Published in SIGIR'20.

Tencent AI Lab Shenzhen, China

Research Intern, Advisor: Dr. Peilin Zhao 07/2019 – 12/2019

- Designed a *Graph-enhaned Transformer* framework to leverage the graph and sequence information of the molecule for retrosynthesis prediction. Published in Neurocomputing'21.

Publications

* indicates equal contributions.

- **Kelong Mao**, Jieming Zhu, Liangcai Su, Guohao Cai, Yuru Li, Zhenhua Dong, "TS-MLP: A Simple Two-stream MLP-based Model for CTR Prediction," in **Preprint (Submitted to AAAI'23)**,
- **Kelong Mao**, Zhicheng Dou, Hongjin Qian, Fengran Mo, Xiaohua Cheng, Zhao Cao "ConvTrans: Transforming Web Search Sessions for Conversational Dense Retrieval," in **Preprint (Submitted to EMNLP'22)**,
- **Kelong Mao**, Zhicheng Dou, Hongjin Qian, "Curriculum Contrastive Context Denoising for Few-shot Conversational Dense Retrieval," in **SIGIR'22 (Full paper)**,
- **Kelong Mao** Jieming Zhu, Xi Xiao, Biao Lu, Zhaowei Wang, Xiuqiang He, "UltraGCN: Ultra Simplification of Graph Convolutional Networks for Recommendation," in **CIKM'21 (Full paper)**, [Github] [PDF]
- **Kelong Mao***, Jieming Zhu*, Jinpeng Wang, Quanyu Dai, Zhenhua Dong, Xi Xiao, Xiuqiang He, "SimpleX: A Simple and Strong Baseline for Collaborative Filtering," in **CIKM'21 (Full paper)**, [Github] [PDF]
- **Kelong Mao**,Xi Xiao, Guangwu Hu, Xiapu Luo, Bin Zhang, Shutao Xia, "Byte-Label Joint Attention Learning for Network Traffic Classification," in **IWQoS'21 (Full paper)**, [PDF]
- **Kelong Mao**, Xi Xiao, Tingyang Xu, Yu Rong, Junzhou Huang, Peilin Zhao, "Molecular Graph Enhanced Transformer for Retrosynthesis Prediction," in **Neurocomputing'21 (Full paper)**, [Github] [PDF]

[1] This curriculum vitae was last updated at 09/06/2022.

- **Kelong Mao**, Xi Xiao, Jieming Zhu, Biao Lu, Ruiming Tang, Xiuqiang He, "Item Tagging for Information Retrieval: A Tripartite Graph Neural Network based Approach," in **SIGIR'20 (Long paper, Industry track)**, [PDF]

SKILLS

Professional Knowledge: Information Retrieval and Recommendation Algorithms, NLP, ML/DL
Programming Languages: Python, C/C++, Java
Tools and Frameworks: PyTorch, Git, LaTeX

AWARDS

- ACM SIGIR 2022 Student Travel Grant.
- Tsinghua SIGS Comprehensive Excellent First-class Scholarship.
- Tsinghua SIGS Professional Practice Third-class Scholarship.