

Yanru Qu

Ph.D. in Computer Science - University of Illinois, Urbana-Champaign

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Education

University of Illinois, Urbana-Champaign

Illinois, U.S.

- Ph.D. in Computer Science
- Advisor: Prof. **Jiaxuan You**, Prof. **Ge Liu**, Prof. **Jiawei Han**

Aug. 2019 - 2020, Aug. 2024 - present

Shanghai Jiao Tong University

Shanghai, China

- M.S. in Computer Science, GPA: 3.83/4, Major: 3.93/4
- B.E. in Computer Science (IEEE Honored Class), GPA: 86.87/100, Major: 90.59/100
- Advisors: Prof. **Weinan Zhang**, Prof. **Yong Yu**

Sep. 2012 - Mar. 2019

Research Interests

My research interests lie in the general area of machine learning, especially their applications in AI4Science, natural language, and recommender system.

Publications (Google Scholar Profile)

MolCRAFT: Structure-Based Drug Design in Continuous Parameter Space

- **Yanru Qu***, **Keyue Qiu**, Yuxuan Song, Jingjing Gong, Jiawei Han, Mingyue Zheng, Hao Zhou, Wei-Ying Ma
- *In Proceedings of ICML'24*

Unified Generative Modeling of 3D Molecules via Bayesian Flow Networks

- Yuxuan Song*, Jingjing Gong*, **Yanru Qu**, Hao Zhou, Mingyue Zheng, Jingjing Liu, Wei-Ying Ma
- *In Proceedings of ICLR'24 (Oral)*

ClickPrompt: CTR Models are Strong Prompt Generators for Adapting Language Models to CTR Prediction

- Jianghao Lin, Bo Chen, Hangyu Wang, Yunjia Xi, **Yanru Qu**, Xinyi Dai, Kangning Zhang, Ruiming Tang, Yong Yu, Weinan Zhang
- *In Proceedings of WWW'24*

MAP: A Model-agnostic Pretraining Framework for Click-through Rate Prediction

- Jianghao Lin, **Yanru Qu** (corresponding author), Wei Guo, Xinyi Dai, Ruiming Tang, Yong Yu, Weinan Zhang
- *In Proceedings of KDD'23*

User behavior prediction method and apparatus, and behavior prediction model training method and apparatus

- Ruiming Tang, Minzhe Niu, **Yanru Qu**, Weinan Zhang, Yong Yu
- *US Patent 11531867*

Task-wise Split Gradient Boosting Trees for Multi-center Diabetes Prediction

- Mingcheng Chen¹, Zhenghui Wang, Zhiyun Zhao, Weinan Zhang, Xiawei Guo, Jian Shen, **Yanru Qu**, Jieli Lu, Min Xu, Yu Xu, Tiange Wang, Mian Li, Wei-Wei Tu, Yong Yu, Yufang Bi, Weiqing Wang, Guang Ning
- *In Proceedings of KDD'21*

Coda: Contrast-enhanced and diversity-promoting data augmentation for natural language understanding

- **Yanru Qu**, Dinghan Shen, Yelong Shen, Sandra Sajeed, Jiawei Han, Weizhu Chen
- *In Proceedings of ICLR'21*

A simple but tough-to-beat data augmentation approach for natural language understanding and generation

- Dinghan Shen, Mingzhi Zheng, Yelong Shen, **Yanru Qu**, Weizhu Chen

Event Time Extraction and Propagation via Graph Attention Networks

- Haoyang Wen, **Yanru Qu**, Heng Ji, Qiang Ning, Jiawei Han, Avi Sil, Radu Florian, Hanghang Tong, Dan Roth
- *In Submission to EMNLP'20*

Multi-document Summarization with Maximal Marginal Relevance-guided Reinforcement Learning

- Yuning Mao, **Yanru Qu**, Yiqing Xie, Xiang Ren, Jiawei Han
- *In Submission to EMNLP'20*

GIKT: A Graph-based Interaction Model for Knowledge Tracing

- Yang Yang, Jian Shen, **Yanru Qu**, Yunfei Liu, Kerong Wang, Yaoming Zhu, Weinan Zhang, Yong Yu
- *In Proceedings of ECML-PKDD'20*

An End-to-End Neighborhood-based Interaction Model for Knowledge-enhanced Recommendation

- o **Yanru Qu***, Ting Bai*, Weinan Zhang, Jianyun Nie, Jian Tang
- o *In Workshop of DLP-KDD'19 (Best Paper)*

Dynamically Fused Graph Network for Multi-hop Reasoning

- o Yunxuan Xiao*, **Yanru Qu***, Lin Qiu*, Hao Zhou, Lei Li, Weinan Zhang, Yong Yu
- o *In Proceedings of ACL'19 (Oral)*

Text-driven Graph Embedding with Pairs Sampling

- o Liheng Chen, **Yanru Qu**, Zhenghui Wang, Lin Qiu, Weinan Zhang, Ken Chen, Shaodian Zhang, Yong Yu
- o *In Proceedings of WWW'19*

Product-based Neural Networks for User Response Prediction over Multi-field Categorical Data

- o **Yanru Qu**, Bohui Fang, Weinan Zhang, Ruiming Tang, Minzhe Niu, Huifeng Guo, Yong Yu, and Xiuqiang He
- o *In ACM Transactions on Information System (TOIS)*

QA4IE: A Question Answering based Framework for Information Extraction

- o Lin Qiu, Hao Zhou, **Yanru Qu**, Weinan Zhang, Suoheng Li, Shu Rong, Dongyu Ru, Lihua Qian, Kewei Tu and Yong Yu
- o *In Proceedings of ISWC'18 (Oral)*

Label-aware Double Transfer Learning for Cross Specialty Medical Named Entity Recognition

- o Zhenghui Wang, **Yanru Qu**, Liheng Chen, Jian Shen, Weinan Zhang, Shaodian Zhang, Yimei Gao, Gen Gu, Ken Chen, and Yong Yu
- o *In Proceedings of NAACL-HLT'18 (Oral)*

Wassertein Distance Guided Representation Learning for Domain Adaptation

- o Jian Shen, **Yanru Qu**, Weinan Zhang, Yong Yu
- o *In Proceedings of AAAI'18*

Product-based Neural Networks for User Response Prediction

- o **Yanru Qu**, Han Cai, Kan Ren, Weinan Zhang, Yong Yu, Ying Wen, Jun Wang
- o *In Proceedings of ICDM'16 (Oral)*

Experiences

Research Intern at Institute for AI Industry Research (AIR), Tsinghua University

Worked on AI4Science with Prof. **Hao Zhou** and Prof. **Weiying Ma**

- o Published a paper in ICLR'24 (oral), and a paper in ICML'24.

Beijing, China

Aug. 2023 - Aug. 2024

Research Intern at D365 Group, Microsoft

Worked on NLP with Dr. **Dinghan Shen**, Dr. **Yelong Shen**, and Dr. **Weizhu Chen**

- o Finished 2 papers, one is published in ICLR'21

Washington, US

May. 2020 - Aug. 2020

Research Intern at NLP Group, ByteDance AI Lab

Worked on NLG with Dr. **Hao Zhou** and Dr. **Lei Li**

Shanghai, China

Apr. 2019 - Aug. 2019

Research Intern at Montreal Institute of Learning Algorithms (MILA)

Worked on GNN with Prof. **Jian Tang** and Prof. **Jianyun Nie** (UdeM)

- o Published and won the **best paper award** of DLP-KDD'19.

Montreal, Canada

June. 2018 - Nov. 2018

Team Leader of SJTU APEX Lab-Huawei Noah's Ark Lab Joint Research Program

Worked on deep recommender systems with Dr. **Ruiming Tang** (Huawei)

- o Won the "Outstanding Cooperation Award" and was regarded as a "High-value Potent" by Huawei.
- o Paper accepted by ACM Transactions on Information Systems (TOIS).
- o Achieved **35%** Click-Through Rate improvements in online A/B test. Deployed in Huawei industrial environments.

Shanghai & Shenzhen, China

Mar. 2017 - Mar. 2018

Student Researcher at APEX Lab, Shanghai Jiao Tong University (SJTU)

Worked with Prof. **Weinan Zhang**, Prof. **Yong Yu**

- o Published several papers in ACL, KDD, AAAI, etc.

Shanghai, China

Sep. 2015 - Mar. 2019

Chief Technology Officer at Sixiangjiyuan Co. Ltd.

Developed a campus online shopping platform, UHands

- o Joined Sixiangjiyuan Co. Ltd., a university venture company.
- o The venture company got CNY ¥ 1,000,000 angel investment.

China

Sep. 2014 - Sep. 2015

Selected Awards

- UIUC CS PhD Fellowship 2024
- Best Paper Award (DLP-KDD'19) 2019
- Shanghai Outstanding Graduate (Top 3 in CS Department) 2019
- National Scholarship for Graduate Students (Top 3 in CS Department) 2018
- National Scholarship for Graduate Students (Top 5 in CS Department) 2017

Open Source Projects

- Implementation of **knowledge-enhanced neighborhood interaction** framework, 60+ stars on github
- Implementation of **product-nets** and **its distributed version**, 500+ stars on github