MENGYUE YANG

London, United Kingdom
E-mail: mengyue.yang@bristol.ac.uk; yangmy6750@gmail.com / **Tel:** +44 7935882474
Website: https://ymy4323460.github.io

I am a Lecturer in AI in University of Bristol, with a particular emphasis on causality and decision-making from the theory to applications in AI. I recently presented the tutorial "Causality for Decision Making" and talk "Causal Agent & Foundation Models" to help researchers and postgraduate students understand causal learning and its practical use in decision-making.

Professional Experience

University of Bristol ***Oct 2024 – Present***
School of Engineering Mathematics and Technology, Intelligent System Lab
Lecturer (=US Assistant Professor) in AI
Research interests: Causality, dynamic world model construction, agent decision-making and game theory.

Education

University College London ***Sep 2020 – Sep 2024***
Ph.D. student
Major: Computer Science
Supervisor: Prof. Jun Wang
Research Interests: Causal Representation Learning, Reinforcement Learning

University of Chinese Academy of Sciences ***Sep 2017 – Jul 2020***
M.Sc. in Computer Application Technology
Supervisor: Hongbo He
Research Interests: Causal Inference, Reinforcement Learning

Beijing Jiao Tong University **Sep 2012 – Jul 2016**
B.Sc. in Software Engineering

Internships

KAUST *Aug 2024 – Sep 2024*
Visiting Student, Supervised by Prof. Juergen Schmidhuber
Causal World Models and Causal reinforcement learning.

MBZUAI *Mar 2024 – Jul 2024*
Visiting Student, Supervised by Prof. Kun Zhang
Causal representation learning.

TikTok, London *Feb 2022 – Jul 2022*
Research Intern in ByteDance Research, Supervised by Dr. Jean-Francois Ton and Dr. Hang Li
Causal representation learning, causal fairness.

Microsoft, Beijing *Jul 2019 – Oct 2019*
Software Engineer Summer Intern of STCA, Ads Data & AI Platform Team, Supervised by Dr. Hao Liu and Dr. Keli Gui
Large-scale cluster, Microsoft Azure, distributional machine learning.

Didi, Beijing *Sep 2018 – Jul 2019*
Research Intern in AI Labs, Reinforcement Learning team. Supervised by Dr. Zhiwei Qin and Dr. Qingyang Li
Reinforcement learning and online learning

Representative Publications

Mengyue Yang, Zhen Fang, Yonggang Zhang, and Yali Du, Furui Liu, Jean-Francois Ton, Jianhong Wang, Jun Wang. Invariant Learning via Probability of Sufficient and Necessary Causes. NeurIPS 2023 Spotlight.

Mengyue Yang*, Quanyu Dai*, Zhenhua Dong, Xu Chen, Xiuqiang He, Jun Wang Top-N Recommendation with Counterfactual User Preference Simulation. CIKM 2021.

Mengyue Yang, Furui Liu, Zhitang Chen, Jianye Hao, Jun Wang. CausalVAE: disentangled representation learning via neural structural causal models CVPR 2021.

Anjie Liu, Jianhong Wang, Haoxuan Li, Xu Chen, Jun Wang, Samuel Kaski, **Mengyue Yang**. Attaining Humans Desirable Outcomes in Human-AI Interaction via Structural Causal Games. ICML 2024 Workshop on Humans-Algs-Society.

Other Publications

Mengyue Yang, Xinyu Cai, Furui Liu, Xu Chen, Zhitang Chen, Jianye Hao, Jun Wang. Specify Robust Causal Representation from Mixed Observations. SIGKDD 2023.

Mengyue Yang, Jun Wang, Jean-Francois Ton. Rectifying Unfairness in Recommendation Feedback Loops. SIGIR 2023.

Mengyue Yang, Guohao Cai, Furui Liu, Zhenhua Dong, Xiuqiang He, Jianye Hao, Jun Wang, Xu Chen. Debiased Recommendation with User Feature Balancing. ACM TOIS.

Mengyue Yang, Qingyang Li, Zhiwei Qin, Jieping Ye. Hierarchical Adaptive Contextual Bandits for Resource Constraint based Recommendation. WWW 2020.

Weiyang Qu, Yang Yu, Qingyang Li, Zhiwei Qin, **Mengyue Yang**, Yiping Meng, Jieping Ye. Offline Reinforcement Learning via Trajectory Synthesis. NeurIPS 2019 Workshop on Deep Reinforcement Learning.

Junruo Gao, **Mengyue Yang**, Yuyang Liu, Jun Li. Deconfounding Representation Learning Based on User Interactions in Recommendation Systems PAKDD 2021.

Jiarui Jin, Xianyu Chen, Weinan Zhang, **Mengyue Yang**, Yang Wang, Yali Du, Yong Yu, Jun Wang. Replace Scoring with Arrangement: A Contextual Set-to-Arrangement Framework for Learning-to-Rank. CIKM 2023.

Xidong Feng, Yicheng Luo, Ziyan Wang, Hongrui Tang, **Mengyue Yang**, Kun Shao, David Mguni, Yali Du, Jun Wang. ChessGPT: Bridging Policy Learning and Language Modeling. NeurIPS 2023 Dataset & Benchmark track.

Jiarui Jin, Xianyu Chen, Fanghua Ye, **Mengyue Yang**, Yue Feng, Weinan Zhang, Yong Yu, Jun Wang. Lending Interaction Wings to Recommender Systems with Plug-and-Play Conversational Agents. NeurIPS 2023.

Jiarui Jin, Zexue He, **Mengyue Yang**, Weinan Zhang, Yong Yu, Jun Wang, Julian McAuley. InfoRank: Unbiased Learning-to-Rank via Conditional Mutual Information Minimization. WWW 2024.

Services

Co-organize AAAI 2025 Workshop: Artificial Intelligence with Causal Techniques.
Co-organize ICDM 2024 Workshop: Causal Representation Learning.
Co-organize NeurIPS 2024 Workshop: Causality and Large Model.
Co-organize NeurIPS 2023 Competition: Causal Structure Learning from Event Sequences and Prior Knowledge.
Teaching assistant at UCL (2021/2022, 2022/2023, 2023/2024): COMP0124 Multi-agent Artificial Intelligence.
Reviewers: TNNLS, KDD, NeurIPS, ICML, ICLR, AAAI, AISTATS, SDM.

Talks and Tutorial

Tutorial: Causality for Decision Making. Slides. RL China 2023, DAI 2023 Invited Talk.
Talk: Causal Agent & Foundation Models. Slides. Jizhi Causality Reading Party 5th season.
Talk: Essential Causal Representation Learning via Probability of Sufficient and Necessary Causes. Slides.PCIC 2024, University of Manchester, University of Bristol, Imperial College London, University College London, AI Time, DataFun Summit.
Talk: Causal Representation Learning. Microsoft Research (New York), Institute of Automation, Chinese Academy of Sciences,University of Bristol,Shanghai Jiaotong University,Hong Kong University of Science and Technology (Guangzhou).
Talk: Causal Disentanglement representation and models. Paper Weekly, University College London,Beijing Institute of Technology, Jizhi Causality Reading Party, Northeastern University.

Honors

Rising Star in AI 2024 by KAUST.
Third Prize of the 2015 National University Students Computer Design Competition.
First Prize of the 2014 Youth Science Popularization Innovation Competition.
Second Prize of 2011 Chinese Physics Olympiad provincial level.