

HONGRU WANG

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Homepage: <https://rulegreen.github.io/> Github: <https://github.com/ruleGreen>

Google Scholar: <https://scholar.google.com/citations?hl=en&user=s6UtVYUAAAAJ>

EDUCATION

The Chinese University of Hong Kong	2021/09 - Now
Ph.D. candidate supervised by Prof. Kam-Fai Wong	GPA: 3.70/4.00
Dialogue System, Large Language Models, Tool Learning	
The University of Edinburgh	2024/04 - Now
Visiting Postgraduate student supervised by Prof. Jeff Z. Pan	
Dialogue System, Large Language Models, Tool Learning	
The Chinese University of Hong Kong	2019/09 - 2020/11
M.Eng. Computer Science and Engineering	GPA: 3.60/4.00
Data Mining, Big Data Technology, Machine Learning	
Communication University of China	2015/09 - 2019/09
B.Eng. Computer Science and Technology	GPA: 3.27/4.00
Computer Operation System, Computer Networks, Data Structures and Algorithms	

CONFERENCES

20. DPDLLM: A Black-box Framework for Detecting Pre-training Data from Large Language Models
Baohang Zhou, Zezhong WANG, Lingzhi Wang, **Hongru Wang**, Ying Zhang, Kehui Song, Xuhui Sui, Kam-Fai Wong
Findings of **ACL 2024** [LLM]
19. Medical Dialogue: A Survey of Categories, Methods, Evaluation and Challenges
Xiaoming Shi, Zeming Liu, Li Du, Yuxuan Wang, **Hongru Wang**, Yuhang Guo, Tong Ruan, JIE XU, Shaoting Zhang
Findings of **ACL 2024** [LLM]
18. Enhancing Large Language Models Against Inductive Instructions with Dual-critique Prompting
Rui Wang*, **Hongru Wang***, Fei Mi, Boyang XUE, Yi Chen, Kam-Fai Wong, Ruifeng Xu
NAACL 2024 [LLM], [Safety] * denotes equal contribution
17. REGA: Role Prompting Guided Multi-Domain Adaptation for Large Language Models
Rui Wang, Fei Mi, Yi Chen, Boyang XUE, **Hongru Wang**, Qi Zhu, Kam-Fai Wong, Ruifeng Xu
Findings of **NAACL 2024** [LLM], [Continual Learning]
16. SELF-GUARD: Empower the LLM to Safeguard Itself
Zezhong Wang, Fangkai Yang, Lu Wang, Pu Zhao, **Hongru Wang**, Liang Chen, Qingwei Lin, Kam-Fai Wong
NAACL 2024 [LLM], [Safety]
15. UniRetriever: Multi-task Candidates Selection for Various Context-Adaptive Conversational Retrieval
Hongru Wang, Boyang Xue, Baohang Zhou, Rui Wang, Fei Mi, Weichao Wang, Yasheng Wang and Kam-Fai Wong
LREC-COLING 2024 [Knowledge-grounded DS], [Tool Learning]
14. JoTR: A Joint Transformer and Reinforcement Learning Framework for Dialog Policy Learning
Wai-Chung Kwan, Huimin Wang, **Hongru Wang**, Zezhong Wang, Xian Wu, Yefeng Zheng and Kam-Fai Wong
LREC-COLING 2024 [Task-oriented DS]

13. MCIL: Multimodal Counterfactual Instance Learning for Low-resource Entity-based Multimodal Information Extraction
Baohang Zhou, Ying Zhang, Kehui Song, **Hongru Wang**, Yu Zhao, Xuhui Sui and Xiaojie Yuan
LREC-COLING 2024 [LLM], [MM]
12. M3Sum: A Novel Unsupervised Language-guided Video Summarization
Hongru Wang, Baohang Zhou, Zhengkun Zhang, Yiming Du, David Ho, Kam-Fai Wong
ICASSP 2024 [LLM], [MM]
11. Large Language Models as Source Planner for Personalized Knowledge-grounded Dialogue
Hongru Wang, Minda Hu, Yang Deng, Rui Wang, Fei Mi, Weichao Wang, Yasheng Wang, Wai-Chung Kwan, Irwin King, Kam-Fai Wong
Findings of **EMNLP 2023** [Knowledge-grounded DS], [LLM]
10. Cue-CoT: Chain-of-thought Prompting for Responding to In-depth Dialogue Questions with LLMs
Hongru Wang*, Rui Wang*, Fei Mi, Yang Deng, Zezhong Wang, Bin Liang, Ruifeng Xu and Kam-Fai Wong
Findings of **EMNLP 2023** [Personalized DS], [LLM]
9. MCML: A Novel Memory-based Contrastive Meta-Learning Method for Few Shot Slot Tagging
Hongru Wang, Zezhong Wang, Wai-Chung Kwan, Kam-Fai Wong
IJCNLP-AAACL 2023 [Task-oriented DS]
8. ReadPrompt: A Readable Prompting Method for Reliable Knowledge Probing
Zezhong Wang*, Luyao YE*, **Hongru Wang**, Wai-Chung Kwan, David Ho, Kam-Fai Wong
Findings of **EMNLP 2023** [Knowledge Probing], [LLM]
7. Improving Factual Consistency for Knowledge-Grounded Dialogue Systems via Knowledge Enhancement and Alignment
Boyang XUE*, Weichao Wang*, **Hongru Wang**, Fei Mi, Rui Wang, Yasheng Wang, Lifeng Shang, Xin Jiang, Qun Liu, Kam-Fai Wong
Findings of **EMNLP 2023** [Knowledge-grounded DS]
6. Prompting and Evaluating Large Language Models for Proactive Dialogues: Clarification, Target-guided, and Non-collaboration
Yang Deng, Lizi Liao, Liang CHEN, **Hongru Wang**, Wenqiang Lei and Tat-Seng Chua
Findings of **EMNLP 2023** [LLM]
5. Towards Robust Personalized Dialogue Generation via Order-Insensitive Representation Regularization
Liang Chen, **Hongru Wang**, Yang Deng, Wai Chung Kwan, Zezhong Wang and Kam-Fai Wong
Findings of **ACL 2023** [Personalized DS]
4. Retrieval-free Knowledge Injection through Multi-Document Traversal for Dialogue Models
Rui Wang, Jianzhu Bao, Fei Mi, Yi Chen, **Hongru Wang**, Yasheng Wang, Yitong Li, Lifeng Shang, Kam-Fai Wong and Ruifeng Xu
ACL 2023 [Knowledge-grounded DS]
3. DIGAT: Modeling News Recommendation with Dual-Graph Interaction
Zhiming Mao, Jian Li, **Hongru Wang**, Xingshan Zeng and Kam-Fai Wong
Findings of **EMNLP 2022** [Others]
2. Integrating Pretrained Language Model for Dialogue Policy Learning
Hongru Wang, Huimin Wang, Zezhong Wang and Kam-Fai Wong
ICASSP 2022 [Task-oriented DS], [RLAIF]
1. CUHK at SemEval-2020 Task 4: CommonSense Explanation, Reasoning and Prediction with Multi-task Learning

Hongru Wang, Xiangru Tang, Sunny Lai, Kwong Sak Leung, Jia Zhu, Gabriel Pui Cheong Fung and Kam-Fai Wong
SemEval of COLING 2020. [Commonsense Knowledge]

JOURNAL

2. KddRES: A Multi-level Knowledge-driven Dialogue Dataset for Restaurant Towards Customized Dialogue System
Hongru Wang, Wai-Chung Kwan, Min Li, Zimo Zhou and Kam-Fai Wong
Computer Speech and Language 2024 (SCI Q2, IF: 4.3) [Task-oriented DS]
1. A Survey on Recent Advances and Challenges in Reinforcement Learning Methods for Task-Oriented Dialogue Policy Learning
Wai-Chung Kwan*, **Hongru Wang***, Huimin Wang and Kam-Fai Wong
Machine Intelligence Research 2023 [Task-oriented DS]

WORKSHOP, TUTORIAL AND OTHERS

2. OSPC: Detecting Harmful Memes with Large Language Model as a Catalyst
Jingtao Cao, Zheng Zhang, **Hongru Wang**, Bin Liang, Hao Wang, Kam-fai Wong
Online Safety Prize Challenge, **WWW 2024** [Champion Solution]
1. Empowering Large Language Models: Tool Learning for Real-World Interaction
Hongru Wang, Yujia Qin, Yankai Lin, Jeff Z. Pan, Kam-fai Wong
Tutorial, **SIGIR 2024** [LLM], [Tool Learning]

PREPRINTS

4. Self-DC: When to retrieve and When to generate? Self Divide-and-Conquer for Compositional Unknown Questions
Hongru Wang*, Boyang Xue*, Baohang Zhou, Tianhua Zhang, Cunxiang Wang, Guanhua Chen, Huimin Wang, Kam-fai Wong
Under Review [LLM], [Tool Learning]
3. UniMS-RAG: A Unified Multi-source Retrieval-Augmented Generation for Personalized Dialogue Systems
Hongru Wang, Wenyu Huang, Yang Deng, Rui Wang, Zezhong Wang, Yufei Wang, Fei Mi, Jeff Z Pan, Kam-Fai Wong
Under Review [LLM], [Tool Learning]
2. TPE: Towards Better Compositional Reasoning over Conceptual Tools with Multi-persona Collaboration
Hongru Wang, Huimin Wang, Lingzhi Wang, Minda Hu, Rui Wang, Boyang XUE, Hongyuan Lu, Fei Mi, Kam-Fai Wong
Under Review [LLM], [Tool Learning]
1. Inconsistent Few-Shot Relation Classification via Cross-Attentional Prototype Networks with Contrastive Learning
Hongru Wang, Zhijing Jin, Gabriel Pui Cheong Fung and Kam-Fai Wong
Arxiv 2021, [Others]

EXPERIMENTENCE

Research Assistant

MoE Key Lab of High Confidence Software Technologies

The Chinese University of Hong Kong (Mentor: Prof. Kam-Fai Wong)

2019/12 - 2021/07

Research Intern

2019/04 - 2019/07

Kuaishou (Mentor: Xiang Wan)

Note: Kuaishou is the biggest competitor with Tiktok in China

PROJECTS

Research and Development of Human Assist AI to Build Customized Task-oriented Dialogue System with Recommendation

2020/05 - 2021/07

- Built a data collection platform to mimic human-to-human dialogue in restaurants; designed corresponding intents and slots in the conversation and set up the interface; post-processed collected dataset such as cleaning, filtering, and correcting typos.
- Implemented task-oriented dialogue system based on ConvLab2 platform; designed dialogue flow and templates for natural language generation; conducted experiments based on our new datasets.

SMP 2020 ECDT Few-shot Spoken Language Understanding

2020/06 - 2020/08

- Data analysis (intent and slot distribution across different domains); reviewed related work and selected suitable baseline.
- Designed and implemented data augmentation strategies, conducted experiments with weighted sampling, and implemented post-processing rules. Led the team to achieve a third prize with our model, boasting an impressive 96.89% intent F1 and 85.42% slot F1.

SemEval 2020 Task 4: CommonSense Detection and Explanation

2019/09 - 2020/05

- Proposed an effective and interpretable “Explain, Reason and Predict” (ERP) system to solve the three sub-tasks about commonsense and ranked top 10 at the competition.
- Implemented our approaches; conducted multiple experiments under multi-task setting; wrote the draft of the paper.

Interdisciplinary/Mathematical Contest In Modeling of America

2018/02 - 2018/03

- Applied raw data correction to establish mathematical model using MATLAB and developed an analog simulation to the existing energy usages.
- Predicted the profile of energy in the next 15, 50, and 100 years; proposed sustainable development strategies

Undergraduate Program for Entrepreneurship

2017/03 - 2018/03

- Gathered requirements through questionnaires, designed product prototypes, formulated interaction logic, and crafted user interfaces. Led team efforts, facilitated meetings, and resolved challenges. Addressed some code issues such as data transmission.
- Analyzed feedback from students, teachers and staff; improved functions and published new version of the platform

TEACHING ASSISTANT

SEEM 3450 Engineering Innovation and Entrepreneurship

SEEM 3490 Information Systems Management

SEEM 5730 / ECLT 5910 Information Technology Management

COMPETITIONS & AWARDS

Top 1 at Online Safety Prize Challenge, WWW 2024	international
Top 10 at ICLR 2021 Workshop MLPCP Track 1 (rank 7th)	international
Third Prize at SMP2020-ECDT Few-shot Spoken Language Understanding	international
Top 10 at SemEval2020-Task4: CommonSense Detection and Explanations	international
Meritorious Winner, Mathematical Contest In Modeling(2018)	international
A software copyright of "WeCampus WeChat mini-program"(2018SR562540)	national
Third Prize of Internet + College Students Innovation and Entrepreneurship Competition	school
China National Radio Scholarship	school