

Haofei Yu

haofei@cs.cmu.edu | haofeiyu.me | [github](https://github.com/haofeiyu) | [linkedin](https://www.linkedin.com/in/haofeiyu)

Education

Carnegie Mellon University	2022/08 – 2024/05 (Expected)
Master of Science in Intelligent Information Systems, GPA 4.14 /4.33	Pittsburgh, PA, USA
• Teaching Assistant for 11-777 Multimodal Machine Learning (2023 Fall)	
Zhejiang University	2018/09 – 2022/06
Bachelor of Engineering in Computer Science and Technology (with Honors), GPA 3.96 /4.00	Hangzhou, China
• Rank: 7/134, Provincial Scholarship (top 5%)	

Publications

[1] **Haofei Yu**, Uri Alon, Graham Neubig. *Racoon: Ranked Code Generation*. Under preparation.

[2] Xuhui Zhou*, Hao Zhu*, Leena Mathur, Ruohong Zhang, **Haofei Yu**, Zhengyang Qi, Louis-Philippe Morency, Yonatan Bisk, Daniel Fried, Graham Neubig, Maarten Sap. *SOTOPIA: Interactive Evaluation for Social Intelligence in Language Agents*. Under review.

[3] **Haofei Yu**, Paul Pu Liang, Ruslan Salakhutdinov, Louis-Philippe Morency. *Mixture of Multimodal Interaction Experts*. NeurIPS UniReps workshop.

[4] **Haofei Yu***, Cunxiang Wang*, Yue Zhang, Wei Bi. *TRAMS: Training-free Memory Selection for Long-range Language Modeling*. Findings of EMNLP 2023.

[5] Cunxiang Wang*, **Haofei Yu***, Yue Zhang. *RFiD: Towards Rational Fusion-in-Decoder for Open-Domain Question Answering*. Findings of ACL 2023.

[6] Chiyu Song*, Hongliang He*, **Haofei Yu**, Leyang Cui, Pengfei Fang, Zhenzhong Lan. *Uni-Encoder: A Fast and Accurate Response Selection Paradigm for Generation-Based Dialogue Systems*. Findings of ACL 2023.

[7] Leonie Weissweiler*, Valentin Hofmann*, Anjali Kantharuban, Anna Cai, Ritam Dutt, Amey Hengle, Anubha Kabra, Atharva Kulkarni, Abhishek Vijayakumar, **Haofei Yu**, Hinrich Schuetze, Kemal Oflazer, David R Mortensen. *Counting the Bugs in ChatGPT’s Wugs: A Multilingual Investigation into the Morphological Capabilities of a Large Language Model*. EMNLP 2023.

Research Experience

Carnegie Mellon University - Language Technologies Institute	2022/09 – Present
Research Assistant	Pittsburgh, PA, USA
• Developed web shopping agents using Mistral-7B trained on Mind2Web, achieving near GPT-4 WebArena success rates.	
• Proposed contrastive ranking loss for multi-task training on code generation, enhancing ODEX pass@100 by 6.65%.[1]	
• Enhanced LLM training on SOTOPIA benchmark using SFT and ReST, reaching 37.8% boost on social goal achieving.[2]	
• Introduced mutlimodal MoE to handle 5 self-defined multimodal interactions, achieving a 2% MUSTARD improvement.[3]	
• Analyzed LLM’s morphological ability in 4 languages and compare LLM prompting with FIT-like finetuned models.[7]	
Westlake University - School of Enginnering	2021/02 – 2022/02
Research Assistant	Hangzhou, China
• Proposed Rational Fusion-in-Decoder, augmented with passage rationale training, achieving a 2.8% increase in accuracy on NaturalQuestions, a 0.9% rise on TriviaQA, and a 15.4% enhancement in understanding across multiple documents. [5]	
• Proposed a SoTA response selection model with a 2.9% R10@1 improvement and 4x faster inference on Ubuntu-v2.[6]	

Work Experience

Apple - Siri & Information Intelligence	2023/05 – 2023/08
Machine Learning Intern	Seattle, WA, USA
• Delivered a LLM-driven hierarchical prompting system including one document retriever, multiple summarizers, and one QA model to disambiguate and accurately respond to challenging real-world Siri user query.	
• Enhanced satisfaction on internal user data and chosen to present to Senior Director <i>Robby Walker</i> (top 10 in SII).	
Tencent - Tencent AI lab	2022/02 – 2022/08
Research Intern	Shenzhen, China
• Designed a training-free memory selection metric in Transformer-XL, gaining 0.19 perplexity drop on WikiText-103.[4]	
• Proposed a diffusion-based approach for NER, achieving results comparable to SpanBERT on CoNLL03 and OntoNotes.	