

Xu Zhao

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EDUCATION BACKGROUND

National University of Singapore

Singapore

MComp, School of Computing, Artificial Intelligence Specialization

Aug. 2022 – Dec. 2023(Expected)

GPA: 4.83/5.0 Advisor: Prof. Qizhe Xie

University of Electronic Science and Technology of China

Chengdu, China

BEng, School of Information and Software Engineering, Elite Program

Aug. 2018 - July 2022

GPA: 3.99/4.0 (Top 5%)

University of Texas at Austin

Austin, the United States

Summer Program for Artificial Intelligence & Scientific English

July 2019 - Aug. 2019

RESEARCH INTEREST

I am generally interested in Natural Language Processing and Deep Learning.

PREPRINTS

[1] Xu Zhao, Yuxi Xie, Kenji Kawaguchi, Junxian He, Qizhe Xie: *Automatic Model Selection with Large Language Models for Reasoning* Submitted to EMNLP 2023

- Proposed one way to combine two distinct reasoning models, CoT and PAL, by enabling LLM to make selection.
- Decomposed the effectiveness of model selection into dissimilarity of base models and the success selection rate.
- Achieved new state-of-the-art results on GSM8K and SVAMP with accuracies of 96.5% and 93.7% respectively.

[2] Qisheng Hu*, Kaixin Li*, Xu Zhao, Yuxi Xie, Tiedong Liu, Hui Chen, Qizhe Xie, Junxian He: *CodeInstruct: Empowering Language Models to Edit Code* Submitted to EMNLP 2023

- Released a dataset designed to adapt LLMs for code editing, containing over 114,000 high-diversity code-editing tasks that cover multiple distinct code editing scenarios.
- LLaMA-33B fine-tuned on CodeInstruct performs on-par with ChatGPT.
- Revealed the pretraining strategy and the scale of finetuning data are both profound factors of code-editing ability.

[3] Yuxi Xie, Kenji Kawaguchi, Yiran Zhao, Xu Zhao, Min-Yen Kan, Junxian He, Qizhe Xie: *Decomposition Enhances Reasoning via Self-Evaluation Guided Decoding*. Submitted to NeurIPS 2023

- Proposed a refined multi-step reasoning approach that integrates self-evaluation guidance stochastic beam search by endowing LLMs.
- Balanced the quality–diversity trade-off in the generation of reasoning chains with stochastic beam search.
- Adapted with majority voting and surpassed the corresponding Codex-backed baselines by a large margin.

RESEARCH EXPERIENCES

School of Computing, National University of Singapore

Singapore

Master's Researcher, Advisor: Prof. Qizhe Xie

Nov. 2022 - Present

- Worked on Large Language Models (LLMs) in general, especially reasoning.

Center for Future Media, University of Electronic Science and Technology of China

Chengdu, China

Undergraduate Researcher, Advisor: Prof. Xing Xu

Sept. 2021 - May. 2022

- Worked on OCR, especially focusing on combining visual and linguistic features to improve recognition performance.

AWARDS AND HONORS

Merit First-class Scholarship 2019, 2020, 2021 (Top 10%)