Chujie Zheng 郑楚杰

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Education

• **Ph.D student**, Department of Computer Science and Technology, Tsinghua University Sep 2020 – Present

Advisor: Prof. Minlie Huang

• Visiting Scholar, Computer Science Department, UCLA

Nov 2023 – Present

Advisor: Prof. Nanyun (Violet) Peng

• **B.S.** in Physics, Tsinghua University

Aug 2016 – Jun 2020

Research Interests

• Robust and Aligned Large Language Models (LLMs)

- LLMs for Social Good
- Dialogue System, Natural Language Generation

Research Highlights and Overview

- Published 10+ papers at the top-tier conferences (ACL, EMNLP, AAAI).
- Google Scholar citations 640+, h-index 12, i10-index 13.
- Conducted a series of research on LLMs' robustness and alignment, covering the following topics:
 - *Perturbation robustness*. <u>Preprint</u> investigates LLMs' bias and robustness in multiple choice evaluations.
 - Out-of-distribution generalization. AugESC improves small models' generalization with LLM-synthesized data.
 - Adversarial attack and defense. <u>CDConv</u> constructs queries at scale to trigger chatbots' self-contradictions;
 <u>Click</u> trains LLMs via contrastive learning to align generated texts with reward functions.
 - *Dialogue safety*. <u>DiaSafety</u> identifies typical categories of dialogue systems' safety failures. <u>COLD</u> releases practical classifiers to detect Chinese LLMs' offensive language.
- Conducted a series of research on **LLMs for social good**, covering the following topics:
 - Emotional support dialogue system. ESC proposes a practical emotional support framework for modern neural dialogue systems and makes the first step towards data-driven emotional support systems; AugESC leverages large-scale LLM-synthesized data to boost open-domain emotional support dialogue; Combining the two research work, we built a Chinese emotional support chatbot Emohaa (launched by Lingxin AI).
 - Empathetic dialogue generation. CoMAE formulates a fine-grained conceptual framework to characterize empathy expression; CEM and CASE further enhance empathy expression with commonsense acquision.
- Built a series of popular NLP datasets, including <u>ChID</u>, <u>KDConv</u>, <u>ESConv</u>, <u>CDConv</u>, <u>DiaSafety</u>, and <u>COLD</u>.

Publications (*: Equal Contribution)

- 1. **Chujie Zheng**, Sahand Sabour, Jiaxin Wen, Zheng Zhang, Minlie Huang. *AugESC: Dialogue Augmentation with Large Language Models for Emotional Support Conversation*. Findings of ACL 2023.
- 2. **Chujie Zheng**, Pei Ke, Zheng Zhang, Minlie Huang. *Click: Controllable Text Generation with Sequence Likelihood Contrastive Learning*. Findings of ACL 2023.
- 3. Jinfeng Zhou*, **Chujie Zheng***, Bo Wang, Zheng Zhang, Minlie Huang. *CASE: Aligning Coarse-to-Fine Cognition and Affection for Empathetic Response Generation*. ACL 2023.
- 4. **Chujie Zheng***, Jinfeng Zhou*, Yinhe Zheng, Libiao Peng, Zhen Guo, Wenquan Wu, Zhengyu Niu, Hua Wu, Minlie Huang. *CDConv: A Benchmark for Contradiction Detection in Chinese Conversations*. EMNLP 2022.

- 5. Siyang Liu*, **Chujie Zheng***, Orianna Demasi, Sahand Sabour, Yu Li, Zhou Yu, Yong Jiang, Minlie Huang. *Towards Emotional Support Dialog Systems*. <u>ACL 2021</u>.
- 6. **Chujie Zheng**, Yong Liu, Wei Chen, Yongcai Leng, Minlie Huang. *CoMAE: A Multi-factor Hierarchical Framework for Empathetic Response Generation*. Findings of ACL 2021.
- 7. **Chujie Zheng**, Yunbo Cao, Daxin Jiang, Minlie Huang. *Difference-aware Knowledge Selection for Knowledge-grounded Conversation Generation*. Findings of EMNLP 2020.
- 8. Hao Zhou*, **Chujie Zheng***, Kaili Huang, Minlie Huang, Xiaoyan Zhu. *KdConv: A Chinese Multi-domain Dialogue Dataset Towards Multi-turn Knowledge-driven Conversation*. <u>ACL 2020</u>.
- 9. Chujie Zheng, Minlie Huang, Aixin Sun. ChID: A Large-scale Chinese IDiom Dataset for Cloze Test. ACL 2019.
- 10. Yuxian Gu*, Jiaxin Wen*, Hao Sun*, Yi Song, Pei Ke, **Chujie Zheng**, Zheng Zhang, Jianzhu Yao, Lei Liu, Xiaoyan Zhu, Minlie Huang. *EVA2.0: Investigating Open-domain Chinese Dialogue Systems with Large-scale Pre-training*. Machine Intelligence Research 2023.
- 11. Jiawen Deng*, Jingyan Zhou*, Hao Sun, **Chujie Zheng**, Fei Mi, Helen Meng, Minlie Huang. *COLD: A Benchmark for Chinese Offensive Language Detection*. EMNLP 2022.
- 12. Hao Sun*, Guangxuan Xu*, Jiawen Deng, Jiale Cheng, **Chujie Zheng**, Hao Zhou, Nanyun Peng, Xiaoyan Zhu, Minlie Huang. *On the Safety of Conversational Models: Taxonomy, Dataset, and Benchmark*. Findings of ACL 2022.
- 13. Sahand Sabour, **Chujie Zheng**, Minlie Huang. *CEM: Commonsense-aware Empathetic Response Generation*. <u>AAAI</u> 2022.
- 14. Hao Sun*, Zhenru Lin*, **Chujie Zheng**, Siyang Liu, Minlie Huang. *PsyQA: A Chinese Dataset for Generating Long Counseling Text for Mental Health Support*. Findings of ACL 2021.

Preprints

- 15. **Chujie Zheng**, Hao Zhou, Fandong Meng, Jie Zhou, Minlie Huang. *Large Language Models Are Not Robust Multiple Choice Selectors*. <u>arXiv:2309.03882</u>.
- 16. **Chujie Zheng**, Minlie Huang. Exploring Prompt-based Few-shot Learning for Grounded Dialog Generation. arXiv:2109.06513.
- 17. Hao Zhou*, Pei Ke*, Zheng Zhang*, Yuxian Gu, Yinhe Zheng, **Chujie Zheng**, Yida Wang, Chen Henry Wu, Hao Sun, Xiaocong Yang, Bosi Wen, Xiaoyan Zhu, Minlie Huang, Jie Tang. *EVA: An Open-Domain Chinese Dialogue System with Large-Scale Generative Pre-Training*. arXiv:2108.01547.

Awards and Honors

•	Comprehensive Scholarship (1nd Price), Tsinghua University	2023
•	Chi-Sun YEH Scholarship (Top 5/100), Dept. of Physics, Tsinghua University	2020
•	Outstanding Undergraduate, Tsinghua University	2020
•	China National Scholarship (Top 2/100)	2019

Services

Reviewer: ACL (22/23), EMNLP (21/22), AAAI (22/23), EACL (23), KNOSYS, TIST