Zihao Zhou

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Research interests   Large Language Models Reasoning, Math Word Problem Solving, Dialogue System

Education   South China Agricultural University   B.Sc.   Software Engineering   2018 – 2022

Liverpool University & Xi'an Jiaotong-liverpool University   PHD student   2022 – present

Publications

MathAttack: Attacking Large Language Models Towards Math Solving Ability

Z. Zhou, Q. Wang, M. Jin, J. Yao, J. Ye, W. Liu, W. Wang, X. Huang, K. Huang

(Under Review)

Learning by Analogy: Diverse Questions Generation in Math Word Problem

Z. Zhou, M. Ning, Q. Wang, J. Yao, W. Wang, X. Huang, K. Huang

In Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (ACL 2023 Findings)

Solving Math Word Problem with Problem Type Classification

J. Yao, **Z. Zhou**, Q. Wang

In Proceedings of the 12th CCF International Conference on Natural Language Processing and Chinese Computing (NLPCC 2023, Co-first author)

Knowledge-based chat detection with false mention discrimination

W. Liu, P. Huang, D. Liang, **Z. Zhou**

In Proceedings of the 46th International Conference on Acoustics, Speech and Signal Processing (ICASSP 2021)

Competition

Shared Task: NLPCC 2023   Ranked 2th out of 18 teams

- **Task:** Chinese Math Word Problem Solving
- **Solution:** Using a **Problem type classifier** to integrated Large Language Model and Tree-based math solver.

Shared Task: SMP-ECDT 2020   Ranked 8th out of 90 teams

The 4th Evaluation of Chinese Human-Computer Dialogue Technology sponsored by Chinese Information Processing Society of China (CIPSC).

- **Task:** Few-shot Dialogue Language Understanding.
- **Sub-task1 (intent detection):** Implementing BERT-finetune to extract sentences semantics and a Prototype to compare the similarity between support set and query set.
- **Sub-task2 (slot filling):** Using LDT (ACL 2019), BERT with pretraining on source set and finetuning on support set.

Shared Task: CCF-DBCI2020   Ranked 229th out of 2950 teams

The 8th Big Data & Computing Intelligence Contest sponsored by China Computer Federation.

- **Task:** Property Industry Chat Q&A Match.
- **Solution:** Using Roberta-large with data augmentation and k-fold cross-validation.

Project: Innovation Training Project for College Students of China   2021.03

- **Title:** Knowledge-base fine-grained sentiment classification
- **Contents:** Attentive neural models for Sentiment Classification. Sentiment Lexicon Enhanced network models for Sentiment Classification. Joint word-level sentiment tag classification and utterance sentiment classification. A lexicon-correlation mechanism for fine-grained sentiment classification.

Services

- **Reviewer:**
  EMNLP2023, Neural Networks

- **Teaching Assistant:**
  INT402 Data Mining (2022 Fall)
  INT104 Artificial Intelligence (2023 Spring)

Certificate

- CET-4, CET-6, Langcert B2