Jinyuan Li

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EDUCATION

TianJin University Sept.2022 – Jan.2025 (Expected)
Master of Computer Technology
Adviser: Prof. Gang Pan
Thesis Topic: Unified Multimodal Named Entity Recognition, Grounding and Segmentation Framework

Taiyuan University of Technology (211 Project) Sept.2018 – Jul.2022
Bachelor of Information and Computing Science
GPA: 90.53/100

Publication

Prompting ChatGPT in MNER: Enhanced Multimodal Named Entity Recognition with Auxiliary Refined Knowledge. Findings of the Association for Computational Linguistics: EMNLP 2023
Jinyuan Li, Han Li, Zhuo Pan, Di Sun, Jiahao Wang, Wenkun Zhang, Gang Pan

LLMs as Bridges: Reformulating Grounded Multimodal Named Entity Recognition. Submitted to ACL 2024
Jinyuan Li, Han Li, Di Sun, Jiahao Wang, Wenkun Zhang, Zan Wang, Gang Pan

PROJECTS

Prompting ChatGPT in MNER: Enhanced Multimodal Named Entity Recognition with Auxiliary Refined Knowledge
Paper: `https://arxiv.org/abs/2305.12212` *Project:* `https://github.com/JinYuanLi0012/PGIM` Feb.2023 – Oct.2023

- Leverage ChatGPT as an implicit knowledge base and enable it to heuristically generate auxiliary knowledge for more efficient entity prediction. Activate the potential of large language models in Multimodal Named Entity Recognition.
- A small amount of predefined artificial samples guides ChatGPT to adapt to downstream task.
- SOTA results on Twitter-2015 and Twitter-2017 and stronger generalization capability.

LLMs as Bridges: Reformulating Grounded Multimodal Named Entity Recognition
Paper: `https://arxiv.org/abs/2402.09989` *Project:* `https://github.com/JinYuanLi0012/RiVEG` Aug.2023 – Feb.2024

- Extend the text input of Visual Entailment and Visual Grounding from limited natural language expressions that require manual definition to infinite named entities that exist naturally by leveraging LLMs as bridges.
- Increase the application scope of Visual Grounding models to the cases of no right objects in image and demonstrates a new paradigm for GMNER.
- All 14 variants of RiVEG achieve new state-of-the-art performance on the Twitter-GMNER dataset.
- After effective data augmentation, the MNER module of RiVEG achieves new state-of-the-art performance on two classic MNER datasets.

Unified Multimodal Named Entity Recognition, Grounding and Segmentation Framework Feb.2024 -

- Build a segmented named entity recognition dataset base on Twitter-GMNER dataset.
- Construct a new SMNER task to perform semantic segmentation of visual objects while identifying and locating text named entities and related visual objects.
- Construct a series of reasonable baseline methods and evaluation methods.
- Extend the text input of Visual Segmentation from limited natural language expressions to infinite named entities that exist naturally.

AWARDS

- Second-class academic Scholarship, 2022 & 2023
- Merit Students of Taiyuan University of Technology, 2021

SERVICE

- Reviewer: ACL 2024/ARR 2024 Feb, ACM MM 2024
- Teaching Assistant: Advanced Computer Vision (Postgraduate), Tianjin University, Fall 2023

SKILLS

- **Programming Languages:** C/C++, Python, Shell
- **Deep Learning Framework:** PyTorch, Tensorflow