Yang Yang

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EDUCATION

South China University of Technology   **Guangzhou, China**
Master of Electronic and Information Engineering   *Sep 2022 – Present*
○ Cumulative GPA – 83.4/100

Dongguan University of Technology   **Dongguan, China**
Bachelor of Automation   *Sep 2018 – Jun 2022*
○ Cumulative GPA – 80.0/100

PAPER

Y Yang, X Dong, Y Qiang. "SKE-MSA: Enhancing Representation Learning with VAD Lexicon for Multimodal Sentiment Analysis"   (**Under review**)

Y Yang, X Dong, Y Qiang. "MSE-Adapter: A Lightweight Plugin Endowing LLMs with the Capability to Perform Multimodal Sentiment Analysis and Emotion Recognition"   (**Under review**)

Y Yang, X Dong, Y Qiang. "CLGSI: A Multimodal Sentiment Analysis Framework based on Contrastive Learning Guided by Sentiment Intensity", Findings of the Association for Computational Linguistics: NAACL 2024   (**NAACL2024 Findings**)

RESEARCH EXPERIENCE

Multimodal Sentiment Analysis Based on Sentiment Knowledge Enhancement   *Apr - Sep '24*
○ Most existing MSA models that are enhanced with external sentiment knowledge primarily focus on integrating this knowledge during the multimodal fusion stage, while overlooking its potential benefits during the multimodal representation learning process.
○ We introduce the Sentiment-aware Encoding Loss (SAE Loss), which leverages the VAD lexicon to guide the encoder in learning to extract features that are most relevant to sentiment information.
○ We conducted extensive experiments on publicly available English and Chinese MSA datasets. The competitive results demonstrate the effectiveness of SKE-MSA.

Multimodal Sentiment Analysis Based on Frozen LLMs   *Dec '23 - Mar '24*
○ Current multimodal sentiment analysis methods based on pre-trained language models exhibit two primary limitations: 1) Once trained for MSA and ERC tasks, these pre-trained language models lose their original generalized capabilities. 2) They demand considerable computational resources.
○ We propose MSE-Adapter, a lightweight and adaptable plugin. This plugin enables a LLM to carry out MSA or ERC tasks with minimal computational overhead (only introduces approximately 2.6M to 2.8M trainable parameters upon the 6/7B models), while preserving the intrinsic capabilities of the LLM.
○ Extensive experiments were conducted on four public English and Chinese datasets using consumer-grade GPUs and open-source LLMs (Qwen-1.8B, ChatGLM3-6B-base, and LLaMA2-7B) as the backbone. The results demonstrate the effectiveness of the proposed plugin.

Multimodal Sentiment Analysis Based on Contrastive Learning   *Jul - Nov '23*
○ Most of existing MSA methods based on contrastive learning lacks more detailed learning of the distribution of sample pairs with different sentiment intensity differences in the contrastive learning representation space. In addition, limited research has been conducted on the fusion of each modality representation obtained by contrastive learning training.
○ Firstly, the proposed contrastive learning guided by sentiment intensity selects positive and negative sample pairs based on the difference in sentiment intensity and assigns corresponding weights accordingly. Subsequently, we propose a new multimodal representation fusion mechanism,

called Global-Local-Fine-Knowledge (GLFK), which extracts common features between different modalities' representations.
○ We conducted extensive experiments on publicly available English and Chinese datasets. Compared to the baseline model, CLGSI achieves competitive experimental results.

WORK EXPERIENCE

International Digital Economy Academy (Futian)   **Shenzhen, China**
LLM Algorithm Intern   *Jun - Sep '24*

○ Prompt auto-optimization
  - Business scenarios often use manual structured prompt, but manual prompt may not always be suitable for the current scenario, the need for repeated verification, more trouble.
  - Therefore, we build an automatic prompt optimisation algorithm based on the open-source scheme, and use GPT-4-turbo as an optimiser to optimise the prompt for specific business scenarios.
○ Building the LLM for the Chinese paper polishing
  - The performance of the Qwen1.5-14B-Chat base model in the Chinese paper polishing scenario is still unsatisfactory after prompt optimization, so the full amount of fine-tuning is taken to build a LLM in the Chinese paper polishing domain.

EXTRA-CURRICULAR ACTIVITIES

Graduate Student Association, School of Automation Science and Engineering
Advocacy Officer   *Sep '22 - Sep '23*

○ Responsible for the college's event publicity shooting, WeChat public number push layout.

MISCELLANEOUS

○ **Language**: Native in Chinese, Familiarity with English
○ **Skill**: Python, Pytorch
○ **Interests**: Basketball, Photography