Zhenbin Chen

Research Interests: Natural Language Processing & Information Extraction & Large Language Model

Telephone: (+86)13249226890   Email: zhenbinchan@gmail.com

EDUCATION

Masters by Research	09/2021- 06/2024
Guangxi Normal University	Guangxi, China

- **GPA:** 4.0/5.0 (**Rank: 1/76**)

Bachelor of Engineering	09/2015- 06/2019
Guangdong University of Petrochemical Technology	Guangdong, China

- **GPA:** 3.15/4.0 (**Rank: 3/105**)

Visit & Exchange	07/2023- 08/2023
Nanyang Technological University	Nanyang Avenue, Singapore

PUBLICATIONS

- GAP:A Novel Generative Context-Aware Prompt-tuning Method for Relation Extraction
  Journal: Expert Systems With Applications (**JCR Q1**)
  Co-authors: **Zhenbin Chen (1st author)**, Zhixin Li*, Yufei Zeng, Huifang Ma, Zhenjun Tang

- Adaptive Prompt Construction Method for Relation Extraction.
  Conference: International Conference on Acoustics, Speech and Signal Processing (**CCF-B**)
  Co-authors: **Zhenbin Chen (1st author)**, Zhixin Li*, Ying Huang, Zhenjun Tang

- Relevance-Aware Dynamic Fusion Method for Social Entity and Relation Extraction.
  Journal: Nerocomputing (**JCR Q2, Under Review**).
  Co-authors: **Zhenbin Chen (1st author)**, Zhixin Li*

- Aspect-level sentiment analysis based on semantic heterogeneous graph convolutional network.
  Journal: Frontiers Computer Science (**JCR Q2, CCF-B**).
  Co-authors: Yufei Zeng, Zhixin Li*, **Zhenbin Chen (3rd author)**

- A feature-based restoration dynamic interaction network for multimodal sentiment analysis
  Journal: Engineering Applications of Artificial Intelligence (**JCR Q2**).
  Co-authors: Yufei Zeng, Zhixin Li*, **Zhenbin Chen (3rd author)**

- Heterogeneous graph convolution based on In-domain Self-supervision for Multimodal Sentiment Analysis
  Journal: Expert Systems With Applications (**JCR Q1**)
  Co-authors: Yufei Zeng, Zhixin Li*, Zhenjun Tang, **Zhenbin Chen (4th author)**

- Study of relation extraction algorithm based on shortest dependency path and BERT.
  Journal: Journal of Southwest China Normal University
  Co-authors: Ke Chen*, **Zhenbin Chen**

- Multi-feature fusion and attention mechanism for Chinese text relation extraction.
  Journal: Journal of Guangdong University of Petrochemical Technology
  Co-authors: **Zhenbin Chen**, Yingya Ye, Ke Chen*.

PATENT

- **Invention patent**: Context-Enhanced Prompt Fine-Tuning for Relation Extraction   04/2023

SOFTWARE COPYRIGHT

- Relation Extraction System Based on Graph Contrastive Learning   04/2022

WORK EXPERIENCES

- **Guangzhou National Wallet Technology Ltd.**   03/2020-09/2020
  Position: NLP Algorithm Engineer
  Background：For risk control, it is crucial to assess the fiscal condition of users. Our project focuses on extracting information from users' messages to determine whether registered users are facing financial distress.
  Contributions：**(1)** Developed three automated text mining and risk assessment models based on XGBoost, LightGBM, and LSTM etc., which are currently in use. **(2)** Built a keyword library for risk control in the financial sector based on TF-IDF; **(3)** Conducted incremental training on BERT using real text data to enhance word features' performance in downstream classification models; **(4)**Text cleaning, text processing, data mining, model maintenance, data analysis (using a company-developed framework), etc.

PARTIAL RESEARCH EXPERIENCES

- **GAP:A Novel Generative Context-Aware Prompt-tuning Method for Relation Extraction.**   2022

To address the issue of prompt-tuning requiring extensive manual template engineering, we proposes using a text summarization dataset to pre-train a lightweight relation trigger generator. The generated trigger words are embedded as contextual priors into the prompt tokens, followed by using a pre-trained language model, which has been pre-trained within the domain, for relation extraction.

Relevance-Aware Dynamic Fusion Method for Social Entity and Relation Extraction.   2023

To address the issue of modal noise in MNER and MRE datasets, we adopts a core strategy of prevention and control. We utilize a dynamic routing mechanism, allowing each sample to adaptively learn the optimal feature fusion path. When the text semantics are sufficient for extracting entities and relations, the model avoids selecting multimodal computation units to prevent the involvement of visual features. Conversely, when the textual context is lacking and visual features must be introduced, a modal correlation reasoning module assigns smaller weights to mismatched modal noise, thereby reducing its impact on the model.

HONOURS AND AWARDS

- Outstanding Graduates (5%), Guangxi Normal University   06/2024
- Outstanding Graduates (10%), Guangdong University of Petrochemical Technology   06/2019
- The 3rd prize in "China Undergraduate Mathematical Contest in Modelling(CUMCM)"   12/2017
- The 2nd prize in "China Undergraduate Mathematical Contest in Modelling(CUMCM)"   12/2016
- The 3rd prize in "Chinese Undergraduate Computer Design Competition"   12/2019
- Academic Scholarship, Guangdong University of Petrochemical Technology.   06/2024-09/2021
- Academic Scholarship, Guangxi Normal University.   06/2019-09/2015

SKILL

- **Language**：Python, C++
- **Frameworks & package :** Pytorch, Numpy, Spacy, HanLP, NLTK, Django, SFT, DeepSpeed, Torchtext, et al.
- **English :** CET6, IELTS (5.5)