Zhuowei Chen

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EDUCATION

Guangdong University of Foreign Studies (GDUFS) Guangzhou, China
- B.E. in Software Engineering *Sept 2021 - June 2025*
- GPA: 3.77/4.00

University of California, Berkeley (UCB) Berkeley, CA
- Courses: Natural Language Processing, Intro to AI, Computer Security *Aug 2023 - Jan 2024*
- GPA: 4.00/4.00

PUBLICATIONS

* represents equal contributions while † represents the corresponding author.

1. Lianxi Wang, **Zhuowei Chen***†, and Yujia Tian*.
   Enhancing Hindi Feature Representation Through Fusion of Dual-Script Word Embeddings.
   Proceedings of the 30th International Conference on Computational Linguistics, 2024.
   COLING 2024 (Long-paper, Main Conference)
2. **Zhuowei Chen**, Yujia Tian, Lianxi Wang†, and Shengyi Jiang.
   A Distantly-Supervised Relation Extraction Method Based on Selective Gate and Noise Correction.
   China National Conference on Chinese Computational Linguistics, 2023.
   CCL 2023 (Long-paper, Main Conference)
3. **Zhuowei Chen***, Huayu Huang*, and Lianxi Wang†.
   LAKA: A Label-Aware and Knowledge-Augmented Framework for Multi-Label Text Classification.
   Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics, 2024.
   ACL 2024 (Under review)

RESEARCH EXPERIENCE

Guangzhou Key Laboratory of Multilingual Intelligent Processing Guangzhou, China
Undergraduate Research Student *Nov 2021 – Present*
Supervisor: Prof. Lianxi Wang, GDUFS

- Enhancing Hindi Representations via Fusion of Pre-trained Language Models. (COLING 2024)
  - Proposed a method to enhance feature representation for Hindi, by combining single-script features from Devanagari and Romanized Hindi Pre-trained Language Models (PLMs).
  - Designed four different fusion methods for dual-script word embedding fusion. Namely, concatenation, cross-attention, summation, and CNNs.
  - Implemented the proposed method and conducted experiments on multiple NLP tasks. In general, dual-script methods have advantages and outperform single-script methods.
- Distantly Supervised Relation Extraction with Noise-Resistant Techniques. (CCL 2023)
  - Proposed a distantly supervised relation extraction (DSRE) method integrating noise-resistant selective gate and noise correction training framework.
  - Developed a three-stage training framework, in which the noise correction framework corrects noise labels during the training process.
  - Performed ablation study and experiments on two DSRE datasets. The results demonstrate that our method outperforms baselines and achieves a SOTA performance in the DSRE task.

- Multi-Label Text Classification with Knowledge Augmentation and Span Prediction.
  - Proposed a multi-label text classification (MLTC) method that casts multi-label prediction to span prediction, with a knowledge-augmentation module integrated.
  - Implemented the proposed MLTC framework, integrated a knowledge-augmentation module that extracts information with GNN, and augments the backbone model with fusion layers.
  - Conducted visualization, ablation study, and experiments on three datasets. Our method outperforms the best benchmark by 1.32% in the macro F1-score.

WORK EXPERIENCE

AI Lab, Wisers Information Limited Hong Kong, China
NLP Research Intern *Dec 2023 - Mar 2024*

- Quantization of Hong Kong Tourism Popularity.
  - Predicted hotel prices, hotel occupancy, and number of arrivals in Hong Kong from analysis of the tendency of mainstream social media content.
  - Built sentiment and spam classification models from human-annotated social media content with BERT-family PLMs.
  - Applied transformer for time series regression to predict the number of arrivals from statistical results of social media contents.

SELECTED PROJECT

- Multimodal NLP: Image-Text Interfacing with CLIP and Rational Speech Acts.
  - Used the CLIP model for image and caption retrieval, enhancing retrieval performance through parameter tuning and model optimization.
  - Developed a Rational Speech Acts inference procedure and applied it to the retrieval tasks, further improving retrieval effectiveness.

SELECTED HONORS

- First-class Scholarship (Top 4%) GDUFS Academic Scholarship, 2023
- Gold Medal Guangdong College Computer Design Competition, 2022
- Silver Medal National College Student Mathematical Modelling Competition, 2023
- Silver Medal (Top 5%) National College Computer Design Competition, 2022

OTHER RELATED EXPERIENCE

- **Conference Participant.** Poster and oral presentation on *LREC-COLING 2024*.
- **Conference Participant.** Poster presentation on *CCL 2023*.
- **Teaching Assistance.** TA for Language Processing Technique.

TECHNICAL SKILLS

- **Programming**: Python, Java, JS/HTML/CSS, C/C++, SQL, Golang.

EXTRACURRICULAR ACTIVITIES

- **Member of Publicity at Student Union, GDUFS** *Sept 2021 - June 2022*
  Scheduled and organized poster presentations promoting AI equity.
- **Volunteer Lecturer at Canton Library** *Oct 2022 - Dec 2022*
  Introduced basics of AI to the public.