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, Ranking: 7/144

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 and † represents the corresponding author.

1. Lianxi Wang, Yujia Tian*, **Zhuowei Chen***†.
   Enhancing Hindi Feature Representation Through Fusion of Dual-Script Word Embeddings
   Proceedings of the 2024 Joint International Conference on Computational Linguistics.
   LREC-COLING 2024 (Long-paper, Main Conference)

2. **Zhuowei Chen**, Yujia Tian, Lianxi Wang†, 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. Lianxi Wang, Huayu Huang, **Zhuowei Chen**†.
   LAKA: A Label-Aware and Knowledge-Augmented Framework for Multi-Label Text Classification
   (Current ARR cycle)

4. **Zhuowei Chen**, Yuben Wu, Xinfeng Liao, Yujia Tian, Lianxi Wang†.
   An Effective Deployment of Diffusion LM for Data Augmentation in Low-Resource Sentiment Classification
   (Current ARR cycle)

5. Lianxi Wang, **Zhuowei Chen***, Yujia Tian*, Mutong Li, Nankai Lin†.
   EditMDS: An Iterative Optimization Method for Multi-Document Summarization Based on Edit Operations
   (Under review of NLPCC 2024)

RESEARCH EXPERIENCE

University of Massachusetts Boston Boston, MA
Research Intern *March 2024 – Present*
Supervisor: Dr. Shichao Pei

Guangzhou Key Laboratory of Multilingual Intelligent Processing Guangzhou, China
Undergraduate Research Student *Nov 2021 – March 2024*
Supervisor: Prof. Lianxi Wang

- BiasLLM: Adversarial Knowledge Editing Attacks on LLMs.
  - Combined GNN with model editing to attack Llama-2, exposing significant bias, highlighting the vulnerability of LLMs to adversarial knowledge editing, and stressing the need for robust countermeasures.
- Deploying Diffusion LM for Data Augmentation in Text Classification. (ARR June)
  - Fine-tuned LMs with a diffusion objective to capture in-domain knowledge and generate samples by reconstructing label-related tokens, balancing domain consistency, label consistency, and diversity. Revealed the potential of diffusion LM for textual data augmentation.

- Multi-Label Text Classification with Knowledge Augmentation and Span Prediction. (ARR June)
  - Proposed a multi-label text classification method that casts multi-label prediction to span prediction with a knowledge-augmentation module integrated, stressing the importance to the LM of the introduction of domain-specific knowledge.
- Enhancing Hindi Representations via Fusion of Pre-trained Language Models. (COLING 2024)
  - Proposed a method to enhance Hindi feature representation by combining Devanagari and Romanized Hindi pre-trained language models, demonstrating the potential of multi-script integration for improving low-resource LMs.
- Distantly Supervised Relation Extraction (DSRE) with Learning-with-Noise Methods. (CCL 2023)
  - Integrated selective gates and a noise correction training framework, which performs data selection and corrects noise labels during a three-stage training process for DSRE model. Discovered a promising way for training-with-noise methods in NLP.

SELECTED PROJECT

- Multimodal NLP: Image-Text Interfacing with CLIP and Rational Speech Acts.
  - Used the CLIP model for image and caption retrieval, enhancing performance through parameter tuning and model optimization, and further improved retrieval effectiveness by developing and applying a Rational Speech Acts inference procedure.

WORK EXPERIENCE

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

- Quantization of Hong Kong Tourism Popularity.
  - Built sentiment and spam classification models from human-annotated social media content using BERT-family PLMs, and applied transformers for time series regression to predict the number of arrivals from social media content statistics.

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* and *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 Dongguan Library** *Oct 2022 - Dec 2022*
  Introduced basics of AI to the public.