Zhipang Wang

+86-139-1247-7730 | zhipangwang@gmail.com | ZpWang-AI

Suzhou, Jiangsu - 215006, China

Objective

Seeking a challenging position in natural language processing to leverage my expertise in deep learning and language models. Aiming to contribute to innovative projects at the intersection of discourse analysis and large language models, and applying these technologies to practical problem-solving in fields such as implicit discourse relation recognition.

Education

- **Soochow University** *Sep 2023 - Present*
  Master of Computer Science and Technology Suzhou, China
  - Conducted academic research under my supervisor's guidance
  - Participated in various practical projects in my lab, involving tasks such as data collection, data analysis, and front-end design
  - Participated in meetings with classmates and my supervisor, where I learned about the latest advancements in information retrieval, retriever augmented generation, large language models, and other state-of-the-art technologies
- **Soochow University** *Sep 2019 - Jul 2023*
  Bachelor of Computer Science and Technology (Artificial Intelligence) Suzhou, China
  - GPA: 3.75/4.00
  - Maintained a strong academic performance, including exceptional grades in core courses such as Advanced Mathematics (4.0), Linear Algebra (4.0), Python Programming (3.9), Principles of Neural Networks (3.9), and Practical Applications of Deep Learning (3.9)
  - Participated in collegiate programming competitions and achieved excellent results
  - Gained extensive extracurricular experience, having served as a student organizational leader and volunteered for various activities

Work Experience

- **BOSCH [🌐]** *Jul 2022 - Oct 2022*
  Strategic Intern - CR/RAI-AP Department Shanghai, China
  - Interned at Bosch, a leading global supplier of technology and services, to support the company's AI initiatives in the Corporate Research / Regional AI - Asia Pacific Department
  - Implemented and optimized Mask R-CNN for instance segmentation
  - Developed a PixelDA-based domain adaptation solution to enhance the robustness of computer vision models
  - Researched and implemented Generative Adversarial Networks (GANs) to generate synthetic training data, demonstrating the potential to expand dataset diversity
  - Gained hands-on experience in cutting-edge AI techniques while developing problem-solving, collaboration, and communication skills

Projects

- **Fine-Grained Multi-Class Event Relation Extraction** *Mar 2024 - Present*
  Tools: [Python, Pytorch]
  - Designed a sophisticated deep learning framework for fine-grained multi-class event relation extraction
  - Implemented and researched advanced models and architectures, including large language models, attention mechanisms, contrastive learning, and multi-task learning
  - Participated in the annotation, collection, and cleaning of data, and built several helpful datasets for the research
  - Conducted extensive experimentation and optimization to improve the model's performance
- **Knowledge-based Retrieval-augmented Question and Answering System** *Apr 2023 - Nov 2023*
  Tools: [Python, Spider (Python library)]
  - Applied the Python library Spider to crawl a large amount of relevant data, and performed cleaning and analysis
  - Engineered a front-end for demonstrating the system

Patents and Publications

C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

[C.1] Zhipang Wang, et al. (2024). **Learning to Differentiate Pairwise-Argument Representations for Implicit Discourse Relation Recognition**. In *Proceedings of the 33rd ACM International Conference on Information and Knowledge Management (CIKM 24)*. ACM. October 21–25, 2024, Boise, ID, USA. DOI: 10.1145/3627673.3679584

- Motivated by the challenges faced in Implicit Discourse Relation Recognition (IDRR) due to the absence of explicit connectives, which leads to difficulties in distinguishing relationships between texts
- Proposed a joint learning framework that combined Prototypical Learning, Adversarial Learning, and Hub-migration Based Redistribution to generate more distinguishable semantic representations
- Enhanced the representational capabilities of PLMs, resulting in substantial improvements in the recognition of implicit discourse relations, as validated across various benchmark datasets
- Achieved F1 scores of approximately 60.75%, 63.48%, 75.70%, and 77.09% for the four main discourse relation types (Temporality, Comparison, Contingency, and Expansion), significantly outperforming existing baseline models in the connective-free training scenario

Skills

- **Programming Languages:** Python, C/C++
- **Deep Learning:** Pytorch, TensorFlow
- **DevOps & Version Control:** Git
- **Markup Language:** LaTeX, Markdown
- **Other Technologies:** Web Crawling, Front-end Design
- **Research Skills:** Literature Review, Model Optimization, Data Collection and Analysis, Prompt Engineering

Honors and Awards

- **Grand Prize Scholarship** *Nov 2023*
  School of Computer Science and Technology, Soochow University
  ◦ Awarded as the top-performing master's students based on academic excellence and contributions to the college
- **Silver Medalist (49th of 1079 teams) - Kaggle Competition** *Mar 2023*
  Learning Equality - Curriculum Recommendations, Kaggle [🌐]
  ◦ Adopted an unsupervised MERLoss training strategy to obtain an initial recall model, and further improved the learning of hard negative samples using Listwise Fine-tuning
  ◦ Applied advanced techniques like SimCSE and Rdrop to train multiple large ranking models
- **First Prize - National Collegiate Programming Contest** *Jun 2022*
  the 13th Lanqiao Cup National Collegiate Python Programming Contest [🌐]
- **Silver Medalist - Provincial Collegiate Programming Contest** *May 2022*
  the 2022 Jiangsu Collegiate Programming Contest
- **Outstanding Student Scholarship, Comprehensive Scholarship** *Dec 2021*
  School of Computer Science and Technology, Soochow University
  ◦ Received awards acknowledging my academic excellence, outstanding performance, and all-around achievements
- **Silver Medalist - National Collegiate Programming Contest** *Nov 2021*
  the 2021 China Collegiate Programming Contest, Harbin Site
- **Silver Medalist - International Collegiate Programming Contest** *Nov 2021*
  the 2021 ICPC Asia Shenyang Regional Contest
- **Silver Medalist - National Collegiate Programming Contest** *Nov 2021*
  the 2021 China Collegiate Programming Contest, Guilin Site
- **Individual First Prize - National Collegiate Programming Contest** *May 2021*
  the 2021 Group Programming Ladder Tournament [🌐]
- **Bronze Medalist - International Collegiate Programming Contest** *Apr 2021*
  the 2021 ICPC Asia Kunming Regional Contest
- **Outstanding Student Scholarship, Comprehensive Scholarship, Yuhuan Scholarship** *Dec 2020*
  School of Computer Science and Technology, Soochow University
  ◦ Received awards acknowledging my academic excellence, outstanding performance, and all-around achievements
  ◦ Received the Yuhuan Scholarship, a donated scholarship that rewards a small number of exceptional students
- **Bronze Medalist - International Collegiate Programming Contest** *Dec 2020*
  the 2020 ICPC Asia Shanghai Regional Contest
- **Bronze Medalist - Provincial Collegiate Programming Contest** *Nov 2020*
  the 2020 Jiangsu Collegiate Programming Contest

Leadership Experience

- **Deputy Director of College Work-Study Office** *Sep 2019 - Oct 2022*
  School of Computer Science and Technology, Soochow University
  - Managed the daily operations of the college work-study program
  - Coordinated the application, selection, and notification processes for the college's scholarship and financial aid programs
  - Arranged and assigned work-study positions across the college

Volunteer Experience

- **Community Pandemic Prevention Volunteer** *Apr 2022 - May 2022*
  Liangxi District Street Office, Wuxi, Jiangsu, China
  - Assisted COVID-19 testing personnel in performing sampling and data collection
  - Contributed to the efficient and organized operation of the community's pandemic prevention and testing efforts
  - Developed teamwork, problem-solving, and time management skills through hands-on support of the pandemic response

Additional Information

Languages: English (Passed CET-4 and CET-6), Chinese (Native)
Interests: Doing Exercise, Watching Movies, Playing Table Tennis, Practicing Calligraphy

References

1. **Yu Hong**
   Professor
   School of Computer Science and Technology, Soochow University
   Email: tianxianer@gmail.com
   Phone: +86-188-9698-6339
   Relationship: Master's supervisor