Qiyu Wu

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Keywords: NLP; Multilingual; Multimodal; LLMs.

Summary

Tech lead of Multimodal NLP team at Creative AI Lab, Sony. Ph.D. specializing in NLP, focusing on **Multimodal Understanding and Representation Learning**. These works have been presented at conferences such as **ACL**, **EMNLP**, **ICLR**, **NAACL**, **ICML**, **TMLR**, **VLDB**, **EACL**, **AAAI**, etc. I also served as area chair and reviewers in above top conferences and organized workshops at NeurIPS. I received JSPS DC fellowship during my Ph.D.

Research Experiences

Research Scientist and Tech Lead at Sony

2025.10 - Present

- Leading Multimodal NLP team, Creative AI Lab.
- Multi-modal pre-training for understanding and retrieval [M1, C12, C14, C16].

Ph.D. at UTokyo, Tsuruoka Lab

2021.10 - 2024.09

- Word-level preference for LLM-based machine translation [C11]; Word alignment pre-training [C5, C15];
- Cross-lingual text embeddings [C8, C7].

Visiting Student at UC San Diego

2023.01 - 2023.02

• Generalized diffusion model [C9].

Research Intern at Microsoft

2020.04 - 2022.02

- Multiple positive examples in sentence embeddings with contrastive learning [C4], work done at STCA.
- Acceleration of language pre-training via better rare word representation [C3], work done at MSR Asia.

R&D Intern at Baidu Research

2019.10 - 2020.02

• Multi-task transportation prediction [C2]; Route mode recommendation in Baidu Maps.

Education

The University of Tokyo, Ph.D. Degree in Information Science & Technology.	2021.10 - 2024.09
• Ph.D. at Tsuruoka Lab; JSPS DC2 Fellowship; JST SPRING Fellowship.	
Peking University, M.Sc. Degree in Computer Software & Theory.	2018.09 - 2021.07
Sichuan University, B.Eng. Degree in Computer Science & Technology.	2014.09 - 2018.07

Advising and Services

Advised Students

- Jongsuk Kim (2025), Intern at Sony, Ph.D. student from KAIST, published [M1].
- Zhongtao Miao (2023 2024), Ph.D. student at The University of Tokyo, published [C8, C15].
- Kaiyan Zhao (2022 2024), Ph.D. student at The University of Tokyo, published [C7, C13].
- Yutao Xie (2020 2021), Ph.D. student at Peking University, published [J1].

Area Chair of ACL Rolling Review.	2025 – Present
Reviewer of ACL Rolling Review, EMNLP, ICLR, NeurIPS, ICML, etc.	2021 – Present
Organizer of "NeurIPS 2025 GenProCC Workshop".	2025
DC2 Fellowship of JSPS.	2024
Teaching Assistant of "Social Implications of Computing" at Peking University.	2019

Publications

- * indicates equal contribution; † indicates students mentored by me.
- [M1] Jongsuk Kim[†], Qiyu Wu, Zhuoyuan Mao, Hiromi Wakaki, Junmo Kim, Yuki Mitsufuji. "MLLMCLIP: Distilling Multimodal Language Models for Robust Vision–Language Understanding", *manuscript*.
- [C16] Zhuoyuan Mao, Mengjie Zhao, Qiyu Wu, Hiromi Wakaki, Yuki Mitsufuji. "DeepResonance: Enhancing Multimodal Music Understanding via Music-centric Multi-way Instruction Tuning", (EMNLP 2025 Main).
- [C15] Zhongtao Miao[†], Qiyu Wu, Masaaki Nagata, and Yoshimasa Tsuruoka. "Improving Word Alignment Using Semi-Supervised Learning", (ACL 2025 Findings).
- **[C14]** Zhuoyuan Mao, Mengjie Zhao, Qiyu Wu, Zhi Zhong, Wei-Hsiang Liao, Hiromi Wakaki, Yuki Mitsufuji. "Cross-Modal Learning for Music-to-Music-Video Description Generation", in Proceedings of the 10th Workshop on Representation Learning for NLP *(RepL4NLP-2025)*.
- [C13] Kaiyan Zhao[†], Qiyu Wu, Zhongtao Miao, Yoshimasa Tsuruoka. "Prompt Tuning Can Simply Adapt Large Language Models to Text Encoders", in Proceedings of the 10th Workshop on Representation Learning for NLP (*RepL4NLP-2025*).
- [J2] Yuting Tang, Xin-Qiang Cai, Yao-Xiang Ding, Qiyu Wu, Guoqing Liu, Masashi Sugiyama. "Reinforcement Learning from Bagged Reward", in Transactions on Machine Learning Research (*TMLR*).
- [C12] Qiyu Wu, Mengjie Zhao, Yutong He, Lang Huang, Junya Ono, Hiromi Wakaki, Yuki Mitsufuji. "Towards Reporting Bias in Visual-language Datasets: Bi-modal Data Augmentation by Decoupling Object-attribute Association", (ICCV 2025 Workshop Multimodal Representation and Retrieval).
- [C11] Qiyu Wu, Masaaki Nagata, Zhongtao Miao, Yoshimasa Tsuruoka. "Word Alignment as Preference for Machine Translation", (EMNLP 2024, main conference long paper, Oral).
- [C10] Qiyu Wu, Zilong Wu, Yoshimasa Tsuruoka. "SGA: Scene Graph Alignment for Evaluation of Text-to-Image Generation", (KDD 2024 Workshop HI-AI).
- [C9] Guangyi Liu, Yu Wang, Zeyu Feng, Qiyu Wu, Liping Tang, Yuan Gao, Zhen Li, Shuguang Cui, Julian McAuley, Eric P. Xing, Zichao Yang, Zhiting Hu. "Unified Generation, Reconstruction, and Representation: Generalized Diffusion with Adaptive Latent Encoding-Decoding", in the Forty-first International Conference on Machine Learning. (ICML 2024).
- [C8] Zhongtao Miao[†], Qiyu Wu, Kaiyan Zhao, Zilong Wu, Yoshimasa Tsuruoka. "Enhancing Cross-lingual Sentence Embedding for Low-resource Languages with Word Alignment", in *the 2022 Conference of the North American Chapter of the Association for Computational Linguistics* (NAACL 2024, findings).
- [C7] Kaiyan Zhao^{†*}, Qiyu Wu^{*}, Xin-Qiang Cai, Yoshimasa Tsuruoka. "Leveraging Multi-lingual Positive Instances in Contrastive Learning to Improve Sentence Embedding", in *the 18th Conference of the European Chapter of the Association for Computational Linguistics* (EACL 2024, main conference long paper).
- [C6] Shiwen Wu, Qiyu Wu, Honghua Dong, Wen Hua, Xiaofang Zhou. "Blocker and Matcher Can Mutually Benefit: A Co-Learning Framework for Low-Resource Entity Resolution.", *Proc. VLDB Endow. (2024). Will appear at Very Large Databases Conf. (VLDB 2024, research track paper)*.
- [C5] Qiyu Wu, Masaaki Nagata, Yoshimasa Tsuruoka. "WSPAlign: Word Alignment Pre-training via Large-Scale Weakly Supervised Span Prediction", in the 61st Annual Meeting of the Association for Computational Linguistics (ACL 2023, main conference long paper).
- **[C4]** Qiyu Wu, Chongyang Tao, Tao Shen, Can Xu, Xiubo Geng, Daxin Jiang. "PCL: Peer-Contrastive Learning with Diverse Augmentations for Sentence Embeddings", in *Conference on Empirical Methods in Natural Language Processing (EMNLP 2022, main conference long paper)*.
- [J1] Yutao Xie[†], Qiyu Wu, Wei Chen and Tengjiao Wang. "Stable Contrastive Learning for Self-Supervised Sentence Embeddings With Pseudo-Siamese Mutual Learning", in *IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP)*, vol. 30, pp. 3046-3059, 2022.

- [C3] Qiyu Wu*, Chen Xing*, Yatao Li, Guolin Ke, Di He, Tie-Yan Liu. "Taking Notes on the Fly Helps Language Pre-Training", in the Ninth International Conference on Learning Representations (ICLR 2021).
- [C2] Hao Liu*, Qiyu Wu*, Fuzhen Zhuang, Xinjiang Lu, Dejing Dou, Hui Xiong. "Community-Aware Multi-Task Transportation Demand Prediction", in *Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI 2021)*.
- [C1] Dechuan Yang*, Qiyu Wu*, Wei Chen, Tengjiao Wang, Zhen Qiu, Di Liu. "Stance Detection with Stance-wise Convolution Network", in the 2022 CCF International Conference on Natural Language Processing and Chinese Computing.

[J]: Journal paper; [C]: Conference paper; [M]: Manuscript; [N]: Non-refereed.