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ZHU LIU

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EDUCATION

Tsinghua University   **Beijing, China**   **Aug 2022 – Present**
- PhD in Computational Linguistics (at School of Humanities), supervised by Ying Liu and cosupervised by Maosong Sun
- **Research Topics:** Word Sense Disambiguation, Uncertainty in Lexical Semantics, explainable LLMs
- **Courses:** Probability and Random Mathematics (auditing), Natural Language Processing (online auditing), Topics in Chinese Morphology and Syntax (A), Research on Corpus Linguistics (A), Research of Seclected Topics on Chinese Semantics (A), Linguistic Typology (auditing), Morphology (auditing)
- **GPA:** 3.93/4.0

·Southern University of Science and Technology   **Shenzhen, China**   **Aug 2019 – June 2022**
- Master in Computer Science and Technology, supervised by Feng Zheng
- **Research Topics:** Video Captioning, Conditional Textual Generation, Variational-based generative models
- **Thesis:** Towards Human-like Diverse Video Captioning via a Latent Generative Model
- **Courses:** Advanced Algorithm (A), Bayesian Data Analysis (A), Machine Learning (A)
- **GPA:** 3.67/4.0

Dalian University of Technology   **Dalian, China**   **Sept. 2015 – June 2019**
- Bachelor in Digital Media Technology (Software Engineering)

PUBLICATIONS

- **Liu, Z.**, Kong, C., Liu, Y., Sun, M. (2024). Fantastic Semantics and Where to Find Them: Investigating Which Layers of Generative LLMs Reflect Lexical Semantics. arXiv preprint arXiv:2403.01509.
- **Zhu Liu** and Ying Liu. 2023. Ambiguity Meets Uncertainty: Investigating Uncertainty Estimation for Word Sense Disambiguation. In Findings of the Association for Computational Linguistics: *ACL* 2023, pages 3963–3977, Toronto, Canada.
- **Liu, Z.**, Wang, T., Zhang, J., Zheng, F., Jiang, W., Lu, K. (2022). Show, Tell and Rephrase: Diverse Video Captioning via Two-Stage Progressive Training. *IEEE Transactions on Multimedia*.
- Wang, Teng, **Zhu Liu**, Feng Zheng, Zhichao Lu, Ran Cheng, and Ping Luo. "Semantic-Aware Pretraining for Dense Video Captioning." arXiv preprint arXiv:2204.07449 (2022).

PROGRAMS AND EVENTS

Fifth Linguistics and Philology Forum   **Tsinghua, Beijing, China**   **November. 2023**
- **Content:** Evaluation agentiveness of Subject-object reversible sentences in LLMs; **Award:** Rank 1/20

Fourth Linguistics and Philology Forum   **Tsinghua, Beijing, China**   **November. 2022**
- **Content:** Uncertainty Estimation on Word Sense Disambiguation; **Award:** Rank 3/20

CVPR 2021 Challenge   **Online, Global**   **May. 2021**
- **Content:** Activitynet Dense Event Video Captioning Challenge; **Award:** Rank 2/60

TECHNICAL EXPERIENCE

Academic Projects
- **Interactive and automatic mural captioning:** An application to provide local and comprehensive descriptions of a mural, while using generative AI to interact with the audience. (Outstanding Creative Paper Award in CDH 2023)

Academic Service
- Conference Reviewer: EMNLP 2023

Teaching Activities
- **Teaching Assistant:** The 2023 undergraduate course: Python and Digital Humanities in Tsinghua University.
  The 2020 undergraduate course: C and C++ programming design in SUSTech.

SKILLS

- Natural Languages: Mandarin Chinese (Native), English (IELTS: 7.5, October 2021), Spanish (basic), Japanese (basic).
- Programming Languages or Packages: Python, Matlab, R, C++, Pytorch.