Weizhi Wang

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RESEARCH FOCUS

I am focusing on the field of Natural Language Processing. My research focus and past experience can be summarized as the following aspects:

- Multimodal Large Language Models: Augmenting LLMs with visual-knowledge (VaLM)
- Long-Context Large Language Models: Long-context LLMs with memory-cache augmentation (LongMem)
- Data-Centric Research: Filtering and Demistifying the pre-training and instruction-tuning data for LLMs and Multimodal LLMs (MLM-Filter)

Additionally, I also worked on some application areas like Multilingual Machine Translation and Speech-to-Text Translation (EMNLP'21, AAAI'22, EMNLP'22); Dialogue Systems and AI Chatbot Agents (SIGIR'22, Alexa SocialBot).

EDUCATION

University of California Santa Barbara, CA, USA

Sep 2022 – Jun 2025

Ph.D. Computer Science Advisor: Prof. Xifeng Yan

Rutgers University, NJ, USA

Aug 2019 – Jun 2021

M.S. Computer Science

Xi'an Jiaotong University, Shaanxi, China

Aug 2015 - Jun 2019

B.E. Electrical Engineering

Preprints

[1] Finetuned Multimodal Language Models Are High-Quality Image-Text Data Filters **Weizhi Wang**, Khalil Mrini, Linjie Yang, Sateesh Kumar, Yu Tian, Xifeng Yan, Heng Wang arXiv] [project website] [code] [model]

[2] GPT-4V(ision) as a Generalist Evaluator for Vision-Language Tasks Xinlu Zhang*, Yujie Lu*, **Weizhi Wang***, An Yan, Jun Yan, Lianke Qin, Heng Wang, Xifeng Yan, William Y. Wang, Linda R. Petzold. (*Equal Contribution)
[arXiv]

Publications (Time Order)

[1] Bot or Human? Detecting ChatGPT Imposters with A Single Question Hong Wang, Xuan Luo, <u>Weizhi Wang</u>, Xifeng Yan. COLM 2024. [arXiv]

[2] Augmenting Language Models with Long-Term Memory.

Weizhi Wang, Li Dong, Hao Cheng, Xiaodong Liu, Xifeng Yan, Jianfeng Gao, Furu Wei.

NeurIPS 2023. [arXiv] [code(739♠)]

[3] GauchoChat: Towards Proactive, Controllable, and Personalized Social Conversation. Hong Wang, <u>Weizhi Wang</u>, Rajan Saini, Marina Zhukova, Xifeng Yan. Amazon Proceedings 2023. [Paper]

[4] Visually-Augmented Language Modeling.

Weizhi Wang, Li Dong, Hao Cheng, Haoyu Song, Xiaodong Liu, Xifeng Yan, Jianfeng Gao, Furu Wei.

ICLR 2023. [arXiv] [code]

[5] Non-Parametric Domain Adaptation for End-to-End Speech Translation. Yichao Du*, <u>Weizhi Wang</u>*, Zhirui Zhang, Boxing Chen, Jun Xie, Tong Xu. EMNLP 2022. **Oral Presentation, TOP 3%.** (*Equal Contribution) [arXiv] [code]

[6] Task-Oriented Dialogue System as Natural Language Generation.

Weizhi Wang, Zhirui Zhang, Junliang Guo, Yinpei Dai, Boxing Chen, and Weihua Luo.

SIGIR 2022. [arXiv] [code]

[7] Regularizing End-to-End Speech Translation with Triangular Decomposition Agreement. Yichao Du, Zhirui Zhang, **Weizhi Wang**, Boxing Chen, Jun Xie, Tong Xu, and Weihua Luo. AAAI 2022. [arXiv] [code]

[8] Rethinking Zero-shot Neural Machine Translation: From a Perspective of Latent Variables. **Weizhi Wang**, Zhirui Zhang, Yichao Du, Boxing Chen, and Weihua Luo. EMNLP Findings 2021. [arXiv] [code]

Competitions

The Fifth Amazon Alexa Prize Social Bot Grand Challenge Nov 2022 - Sep 2023

Champion \(\frac{1}{2} \), winning \$250,000 first place bonus

<u>Description</u>: As a member of *GauchoChat* team, we developed a proactive, controllable, and personalized social chatbot.

Professional Services

- Conference Reviewer: KDD 2023, NeurIPS 2023, ICLR 2024, SDM 2024, ACL Rolling Review, ICML 2024, NeurIPS 2024.
- Journal Reviewer: TASLP, TALLIP.

RESEARCH

Amazon, Palo Alto, US

Jun 2024 – Sep 2024

Intern Experiences Mentor: Dr. Rongmei Lin Stores Foundational AI

Description: Vision-Language Continue Training for Large Language Models.

TikTok, San Jose, US

Sep 2023 - Dec 2023

Mentor: Dr. Heng Wang Intelligent Creation Group

Description: Vision-language pre-training with pruned high-quality dataset.

Microsoft Research Asia, Beijing, CN

Nov 2021 - May 2023

Mentor: Dr. Li Dong, Dr. Hao Cheng, Dr. Xiaodong Liu

Nature Language Computing Group

Description: Large Language Models with visual-knowledge enhancement, Augmenting Large Language Models with long-term memory.

Alibaba DAMO Academy, Hangzhou, CN

Sep 2020 - Nov 2021

Mentor: Dr. Boxing Chen, Dr. Zhirui Zhang

Machine Translation Group, Language Technology Lab

<u>Description</u>: Task-Oriented Dialogue Systems, Multilingual Neural Machine Translation, and <u>Speech-to-Text Translation</u>.

AWARDS

- "Stars of Tomorrow" Excellent Intern Award, Microsoft Research, 2023.
- Academic Excellence Fellowship. University of California Santa Barbara. 2022.
- Outstanding Graduate Academic Performance Award. Rutgers University. 2021.
- Siyuan Scholarship. Xi'an Jiaotong University. 2016 & 2018.