Jinyi Hu

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EDUCATION BACKGROUND

Tsinghua University **Beijing, China**
PhD. Computer Science and Technology *Sept.2021 - Jun.2026(expected)*

Tsinghua University **Beijing, China**
Major: B.Eng. Computer Science and Technology *Sept.2017 - Jun.2021*
GPA: 3.76/4.0, Top 20%

Tsinghua University **Beijing, China**
Minor: Statistics *Sept.2019 - Jun.2021*

RESEARCH EXPERIENCE

Tsinghua NLP Lab **Beijing, China**
Lab Project Advised by Maosong Sun and Zhiyuan Liu

Project: Large-Scale Multimodal Model *Apr.2023 - Present*

- Propose a new architecture Muffin for multimodal LLM by leveraging pretrained VLM as an inherent bridge between the visual module and LLM.
- Develop a series of large multimodal models. VisCPM support multimodal conversational capabilities (VisCPM-Chat) and text-to-image generation (VisCPM-Paint) in both Chinese and English, achieving SOTA performance among Chinese open-source multimodal models and obtaining around 900 stars on Github.

Tsinghua NLP Lab **Beijing, China**
Lab Project Advised by Maosong Sun

Project: Text Generation with Transformer-based VAE *Sept.2021 - June.2022*

- Develop a novel layer-wise recurrent latent variable structure for Transformer-based VAE
- Propose a Transformer-based recurrent VAE structure to enhance the diversity of text generation

Alibaba Damo Academy **Hangzhou, China**
Research Internship Advised by Boxing Chen

Project: End-to-end speech translation *June.2020 - Oct.2020*

- Design a new **pretrain** paradigm for **end-to-end speech translation**, which utilized a large amount of resources from both machine translation data and automatic speech recognition data

Mila-Quebec AI Institute **Montreal, Canada**
Research Internship Advised by Jian Tang

Project: Interpretable Language Understanding *Jan.2020 - June.2020*

- Develop a semi-supervised model that simultaneously classifies sentences and generates natural language explanations for the labels based on Expectation-Maximization (EM) algorithm

Tsinghua NLP Lab **Beijing, China**
Student Research Assistant Advised by Prof. Maosong Sun

Project: Automatic Generation of Chinese Classical Poems *Jul.2019 - June.2020*

- Design a uniform framework based on GPT-2 to generate major typesof Chinese Classical Poems.
- Responsible for Jiuge system.

PUBLICATIONS

- **Jinyi Hu**, Yuan Yao, Chongyi Wang, Shan Wang, Yinxu Pan, Qianyu Chen, Tianyu Yu, Hanghao Wu, Yue Zhao, Haoye Zhang, Xu Han, Yankai Lin, Jiao Xue, Dahai Li, Zhiyuan Liu, Maosong Sun. Large Multilingual Models Pivot Zero-Shot Multimodal Learning across Languages. **ICLR 2024**.
- Tianyu Yu*, **Jinyi Hu***, Yuan Yao, Haoye Zhang, Yue Zhao, Chongyi Wang, Shan Wang, Yinxu Pan, Jiao Xue, Dahai Li, Zhiyuan Liu, Haotao Zheng, Maosong Sun. Reformulating Vision-Language Foundation Models and Datasets Towards Universal Multimodal Assistants. Preprint 2023.
- **Jinyi Hu**, Xu Han, Xiaoyuan Yi, Yutong Chen, Wenhao Li, Zhiyuan Liu, Maosong Sun. Efficient Cross-Lingual Transfer for Chinese Stable Diffusion with Images as Pivots. Preprint 2023.
- Tianyu Yu, Yuan Yao, Haoye Zhang, Taiwen He, Yifeng Han, Ganqu Cui, **Jinyi Hu**, Zhiyuan Liu, Hai-Tao Zheng, Maosong Sun, Tat-Seng Chua. RLHF-V: Towards Trustworthy MLLMs via Behavior Alignment from Fine-grained Correctional Human Feedback. Preprint 2023.
- **Jinyi Hu**, Xiaoyuan Yi, Wenhao Li, Maosong Sun, Xing Xie. Fuse It More Deeply! A Variational Transformer with Layer-Wise Latent Variable Inference for Text Generation. **NAACL 2022**.
- Wangchunshu Zhou*, **Jinyi Hu***, Hanlin Zhang, Xiaodan Liang, Maosong Sun, Chenyan Xiong, Jian Tang. Towards Interpretable Natural Language Understanding with Explanations as Latent Variables. **NeurIPS 2020**.(* indicates equal contribution)
- **Jinyi Hu**, Xiaoyuan Yi, Wenhao Li, Maosong Sun, Xing Xie. Recurrence Boosts Diversity! Revisiting Recurrent Latent Variable in Transformer-Based Variational AutoEncoder for Diverse Text Generation. **Findings of EMNLP 2022**.
- **Jinyi Hu**, Maosong Sun. Generating Major Types of Chinese Classical Poetry in a Uniformed Framework. LREC 2020.
- Huimin Chen, Yankai Lin, Fanchao Qi, Peng Li, **Jinyi Hu**, Jie Zhou and Maosong Sun. Aspect-level Sentiment-Controllable Review Generation. AAAI 2021.

SERVICES

- Reviewer: CVPR, NeurIPS, ACL, EMNLP, NAACL

AWARDS & ACHIEVEMENTS

- Comprehensive Scholarship   *Oct.2023*
- Longhu Scholarship   *Sept.2023*
- Comprehensive Scholarship   *Oct.2022*
- Merit Student in Beijing   *Dec.2020*
- Tang Lixin Scholarship (Top 5%)   *Dec.2020*
- Academic Outstanding Scholarship   *Oct.2019*
- First Prize of the Physics Competition for College Students   *Dec.2018*
- Comprehensive Scholarship——Evergrande Scholarship (Top 5%)   *Oct.2018*
- Freshman Scholarship   *Sept.2017*

SKILLS

- Extensive knowledge of Linux, Python, C++, Java, Git, and R, and could use Python packages including Pytorch, numpy, Stanza, transformers
- Language: GRE: Verbal:159, Quant: 168, AW: 3.5; College English Test-4: 606;