

Yuxian Gu

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Education

Tsinghua University

PH.D. STUDENT IN COMPUTER SCIENCE AND TECHNOLOGY

- Member of **Tsinghua Conversational AI Group (CoAI)**
- Research Interest: Natural Language Processing
- Supervisor: Prof. Minlie Huang

Beijing, China

Sept. 2021 - Present

Tsinghua University

B. ENG. IN COMPUTER SCIENCE AND TECHNOLOGY

Beijing, China

Sept. 2017 - June 2021

Publications

[1] Learning Instructions with Unlabeled Data for Zero-Shot Cross-Task Generalization

Yuxian Gu, Pei Ke, Xiaoyan Zhu, Minlie Huang. In *Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2022.

[2] PPT: Pre-Trained Prompt Tuning for Few-Shot Learning

Yuxian Gu*, Xu Han*, Zhiyuan Liu, Minlie Huang. In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2022.

[3] CPM-2: Large-Scale Cost-Effective Pre-Trained Language Models

Zhengyan Zhang*, Yuxian Gu*, Xu Han*, Shengqi Chen*, Chaojun Xiao*, Zhenbo Sun, Yuan Yao, Fanchao Qi, Jian Guan, Pei Ke, Yanzheng Cai, Guoyang Zeng, Zhixing Tan, Zhiyuan Liu, Minlie Huang, Wentao Han, Yang Liu, Xiaoyan Zhu, Maosong Sun. *AI Open*, 2022.

[4] Pre-Trained Models: Past, Present and Future

Xu Han*, Zhengyan Zhang*, Ning Ding*, Yuxian Gu*, Xiao Liu*, Yuqi Huo*, Jiezhong Qiu, Yuan Yao, Ao Zhang, Liang Zhang, Wentao Han, Minlie Huang, Qin Jin, Yanyan Lan, Yang Liu, Zhiyuan Liu, Zhiwu Lu, Xipeng Qiu, Ruihua Song, Jie Tang, Ji-Rong Wen, Jinhui Yuan, Wayne Xin Zhao, Jun Zhu. *AI Open*, 2022.

[5] When does Further Pre-training MLM Help? An Empirical Study on Task-Oriented Dialog Pre-training

Qi Zhu, Yuxian Gu, Lingxiao Luo, Bing Li, Cheng Li, Wei Peng, Minlie Huang, Xiaoyan Zhu. In *Proceedings of the Second Workshop on Insights from Negative Results in NLP (EMNLP Workshop)*, 2021. (Best Paper)

[6] CPM: A Large-Scale Generative Chinese Pre-Trained Language Model

Zhengyan Zhang, Xu Han, Hao Zhou, Pei Ke, Yuxian Gu, Deming Ye, Yujia Qin, Yusheng Su, Haozhe Ji, Jian Guan, Fanchao Qi, Xiaozhi Wang, Yanan Zheng, Guoyang Zeng, Huanqi Cao, Shengqi Chen, Daixuan Li, Zhenbo Sun, Zhiyuan Liu, Minlie Huang, Wentao Han, Jie Tang, Juanzi Li, Xiaoyan Zhu, Maosong Sun. *AI Open*, 2021.

[7] Train No Evil: Selective Masking for Task-Guided Pre-Training

Yuxian Gu, Zhengyan Zhang, Xiaozhi Wang, Zhiyuan Liu, Maosong Sun. In *Proceedings of the Empirical Methods in Natural Language Processing (EMNLP)*, 2020. (short)

[8] Adapting Meta Knowledge Graph Information for Multi-Hop Reasoning Over Few-Shot Relations

Xin Lv, Yuxian Gu, Xu Han, Lei Hou, Juanzi Li, Zhiyuan Liu. In *Proceedings of Empirical Methods in Natural Language Processing and International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, 2019. (short)

Preprints

[1] EVA2.0: Investigating Open-Domain Chinese Dialogue Systems with Large-Scale Pre-Training

Yuxian Gu*, Jiaxin Wen*, Hao Sun*, Yi Song, Pei Ke, Chujie Zheng, Zheng Zhang, Jianzhu Yao, Xiaoyan Zhu, Jie Tang, Minlie Huang. arXiv preprint, 2022.

[2] EVA: An Open-Domain Chinese Dialogue System with Large-Scale Generative Pre-Training

Hao Zhou*, Pei Ke*, Zheng Zhang*, Yuxian Gu, Yinhe Zheng, Chujie Zheng, Yida Wang, Chen Henry Wu, Hao Sun, Xiaocong Yang, Bosi Wen, Xiaoyan Zhu, Minlie Huang, Jie Tang. arXiv preprint, 2021.

Experience

Tsinghua NLP Lab

STUDENT RESEARCH ASSISTANT

- Supervised by Prof. Zhiyuan Liu.

Beijing, China

Sep. 2018 - Feb. 2020

Honors & Awards

2021	Excellent Graduate, Tsinghua University Awarded to graduates with excellent achievements by Tsinghua University.	<i>Tsinghua University</i>
2021	Outstanding Graduate, Dept. CST, Tsinghua University Awarded to graduates with excellent achievements by Department of Computer Science and Technology, Tsinghua University.	<i>Tsinghua University</i>
2021	Outstanding Undergraduate Dissertation, Tsinghua University Awarded to outstanding undergraduate dissertations by Tsinghua University.	<i>Tsinghua University</i>
2020	Overall Scholarship Awarded to students with excellent achievements by Department of Computer Science and Technology, Tsinghua University.	<i>Tsinghua University</i>
2019	Science and Technology Innovation Excellence Scholarship Awarded to students with excellent scientific potential by Department of Computer Science and Technology, Tsinghua University.	<i>Tsinghua University</i>
2019	Silver Prize, 2019 Asia Student Supercomputer Challenge World-wide contest on super-computing.	<i>Dalian, China</i>
2018	Overall Scholarship Awarded to students with excellent achievements by Department of Computer Science and Technology, Tsinghua University.	<i>Tsinghua University</i>
2017	Second Grade Scholarship for Freshman Awarded to students with excellent overall achievements in high school, Tsinghua University.	<i>Tsinghua University</i>
2016	1st Prize, Chinese Physics Olympiad in Provinces Nation-wide contest on physics.	<i>Beijing, China</i>
2016	1st Prize, Pan-Pearl River Delta and Chinese Elite Schools Physics Olympiad Nation-wide contest on physics.	<i>Shenzhen, China</i>

Projects

CPM-2: Large-scale Cost-effective Pre-trained Language Models

JAN. 2021 - JUNE. 2021

- The largest open-source Chinese pre-trained language model (11B parameters).
- Encoder-decoder architecture. Based on Megatron-LM and DeepSpeed. Language understanding and generation.
- Open Source: <https://github.com/TsinghuaAI/CPM-2-Pretrain>

EVA: Large-scale Open-domain Chinese Dialogue System

SEP. 2021 - JAN. 2022

- The largest open-source Chinese dialogue model with pre-training (2.8B parameters).
- Encoder-decoder architecture. Based on DeepSpeed. Open-domain chit-chat.
- Open Source: <https://github.com/thu-coai/EVA>

Teaching Assistantships

Object Oriented Programming

Instructor: Prof. Minlie Huang

Tsinghua University

2022. 2 - 2022. 6

Artificial Neural Networks

Instructor: Prof. Minlie Huang

Tsinghua University

2021. 9 - 2022. 1

Object Oriented Programming

Instructor: Prof. Minlie Huang

Tsinghua University

2021. 2 - 2021. 6

Artificial Neural Networks

Instructor: Prof. Minlie Huang

Tsinghua University

2020. 9 - 2021. 1