

# Tianyu Gao

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## EDUCATION

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### Princeton University

Princeton, New Jersey, USA

*Ph.D. Student in Computer Science*

*2020 - Present*

- Research area: Natural Language Processing, Machine Learning
- Advisor: Prof. Danqi Chen

### Tsinghua University

Beijing, China

*B.Eng. in Computer Science and Technology*

*2016 - 2020*

- Advisor: Prof. Zhiyuan Liu

## FELLOWSHIPS, AWARDS AND HONORS

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Outstanding Paper Award, ACL 2022.

Special-Class Scholarship (10 out of 3,000), Tsinghua University, 2019.

Cai Xiong Scholarship (10 out of 3,000), Tsinghua University, 2019.

Fellowship of the Initiative Scientific Research Program (10 out of 3,000), Tsinghua University, 2019.

## PUBLICATIONS

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- [1] *Ditch the Gold Standard: Re-evaluating Conversational Question Answering.*  
Huihan Li\*, **Tianyu Gao\***, Manan Goenka, Danqi Chen. In *Proceedings of Association for Computational Linguistics (ACL)*, 2022. **Outstanding Paper Award.**
- [2] *Recovering Private Text in Federated Learning of Language Models.*  
Samyak Gupta\*, Yangsibo Huang\*, Zexuan Zhong, **Tianyu Gao**, Kai Li, Danqi Chen. In *Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [3] *Automatic Label Sequence Generation for Prompting Sequence-to-sequence Models.*  
Zichun Yu, **Tianyu Gao**, Zhengyan Zhang, Yankai Lin, Zhiyuan Liu, Maosong Sun, Jie Zhou. In *Proceedings of International Conference on Computational Linguistics (COLING)*, 2022.
- [4] *SimCSE: Simple Contrastive Learning of Sentence Embeddings.*  
**Tianyu Gao\***, Xingcheng Yao\*, Danqi Chen. In *Proceedings of Empirical Methods in Natural Language Processing (EMNLP)*, 2021.
- [5] *Making Pre-trained Language Models Better Few-shot Learners.*  
**Tianyu Gao\***, Adam Fisch\*, Danqi Chen. In *Proceedings of Association for Computational Linguistics and International Joint Conference on Natural Language Processing (ACL-IJCNLP)*, 2021.
- [6] *Manual Evaluation Matters: Reviewing Test Protocols of Distantly Supervised Relation Extraction.*  
**Tianyu Gao**, Xu Han, Keyue Qiu, Yuzhuo Bai, Zhiyu Xie, Yankai Lin, Zhiyuan Liu, Peng Li, Maosong Sun, Jie Zhou. In *Proceedings of Findings of the Association for Computational Linguistics*, 2021.
- [7] *KEPLER: A Unified Model for Knowledge Embedding and Pre-trained Language Representation.*  
Xiaozhi Wang, **Tianyu Gao**, Zhaocheng Zhu, Zhiyuan Liu, Juanzi Li, Jian Tang. *Transactions of the Association for Computational Linguistics*, 2021.
- [8] *Learning from Context or Names? An Empirical Study on Neural Relation Extraction.*  
Hao Peng\*, **Tianyu Gao\***, Xu Han, Yankai Lin, Peng Li, Zhiyuan Liu, Maosong Sun, Jie Zhou. In *Proceedings of Empirical Methods in Natural Language Processing (EMNLP)*, 2020.
- [9] *More Data, More Relations, More Context and More Openness: A Review and Outlook for Relation Extraction.*  
Xu Han\*, **Tianyu Gao\***, Yankai Lin\*, Hao Peng, Yaoliang Yang, Chaojun Xiao, Zhiyuan Liu, Peng Li, Maosong Sun, Jie Zhou. In *Proceedings of Asia-Pacific Chapter of the Association for Computational Linguistics*, 2020.
- [10] *Continual Relation Learning via Episodic Memory Activation and Reconsolidation.*  
Xu Han, Yi Dai, **Tianyu Gao**, Yankai Lin, Zhiyuan Liu, Peng Li, Maosong Sun, Jie Zhou. In *Proceedings of Association for Computational Linguistics (ACL)*, 2020.

- [11] *Few-shot Relation Extraction via Bayesian Meta-learning on Task Graphs*.  
Meng Qu, **Tianyu Gao**, Louis-Pascal Xhonneux, Jian Tang. In *Proceedings of International Conference on Machine Learning (ICML)*, 2020.
- [12] *Neural Snowball for Few-Shot Relation Learning*.  
**Tianyu Gao**, Xu Han, Ruobing Xie, Zhiyuan Liu, Fen Lin, Leyu Lin, Maosong Sun. In *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2020.
- [13] *FewRel 2.0: Towards More Challenging Few-Shot Relation Classification*.  
**Tianyu Gao**, Xu Han, Hao Zhu, Zhiyuan Liu, Peng Li, Maosong Sun, Jie Zhou. In *Proceedings of Empirical Methods in Natural Language Processing and International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, 2019.
- [14] *OpenNRE: An Open and Extensible Toolkit for Neural Relation Extraction*.  
Xu Han\*, **Tianyu Gao\***, Yuan Yao, Deming Ye, Zhiyuan Liu, Maosong Sun. In *Proceedings of Empirical Methods in Natural Language Processing (EMNLP): System Demonstrations*, 2019.
- [15] *Hybrid Attention-Based Prototypical Networks for Noisy Few-Shot Relation Classification*.  
**Tianyu Gao\***, Xu Han\*, Zhiyuan Liu, Maosong Sun. In *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2019.

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## PREPRINTS

- [1] *Should You Mask 15% in Masked Language Modeling?*  
Alexander Wettig\*, **Tianyu Gao\***, Zexuan Zhong, Danqi Chen. 2022. arXiv preprint 2202.08005.

\* indicates equal contribution.

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## RESEARCH AND INDUSTRY EXPERIENCE

<b>Facebook AI Research (FAIR)</b> <i>Research Intern with Jason Weston</i>	Jun. 2022 – Aug. 2022 <i>New York City, NY, USA</i>
<b>Tsinghua NLP Lab</b> <i>Research Assistant with Prof. Zhiyuan Liu</i>	Nov. 2017 – May 2020 <i>Beijing, China</i>
<b>Mila-Quebec AI Institute</b> <i>Research Assistant with Prof. Jian Tang</i>	Jul. 2019 – Sept. 2019 <i>Montreal, Canada</i>
<b>WeChat AI, Tencent</b> <i>Tencent Rhino-Bird Elite Training Program with Peng Li</i>	May 2019 - May 2020 <i>Beijing, China</i>
<b>Momenta</b> <i>Research Intern with Ji Liang</i>	May 2017 - May 2018 <i>Beijing, China</i>

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## TEACHING EXPERIENCE

<b>COS484: Natural Language Processing</b> <i>Teaching assistant. Instructor: Prof. Karthik Narasimhan</i>	Spring 2022 <i>Princeton University</i>
<b>COS324: Introduction to Machine Learning</b> <i>Teaching assistant. Instructors: Prof. Sanjeev Arora and Prof. Danqi Chen</i>	Fall 2021 <i>Princeton University</i>
<b>Natural Language Processing</b> <i>Teaching assistant. Instructor: Prof. Zhiyuan Liu</i>	Spring 2020 <i>Tsinghua University</i>

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## INVITED TALKS

- AI Time, 2022. Ditch the Gold Standard: Re-evaluating Conversational Question Answering (in Chinese).
- Cohere, 2021. Simple Contrastive Learning of Sentence Embeddings.
- ASAPP, 2021. Simple Contrastive Learning of Sentence Embeddings.

## MENTORING

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- Jiatong Yu (2022), undergraduate student at Princeton University.
- Howard Yen (2022), undergraduate student at Princeton University.
- Jane Pan (2021-2022), MSE student at Princeton University.
- Huihan Li (2020-2021), MSE student at Princeton University. Now a PhD student at USC.
- Xingcheng Yao (2021), undergraduate student at Tsinghua University.
- Zichun Yu (2020), undergraduate student at Tsinghua University.
- Hao Peng (2019-2020), undergraduate student at Tsinghua University. Now a PhD student at Tsinghua.

## PROFESSIONAL SERVICE

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### **Program Committee Member**

- Association for Computational Linguistics (ACL) Rolling Review.
- International Conference on Learning Representations (ICLR).
- Annual Meeting of the Association for Computational Linguistics (ACL).
- Conference on Empirical Methods in Natural Language Processing (EMNLP).
- Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL).
- International Conference on Computational Linguistics (COLING).
- Conference on Automated Knowledge Base Construction (AKBC).