

# CHENG QIAN

Department of Computer Science and Technology  
Tsinghua University, China

Mobile: (+86) 18600660219 | Email: qianc20@mails.tsinghua.edu.cn | Main Page: qiancheng0.github.io



## EDUCATION

**Tsinghua University, Undergraduate**

Sep 2020 – Present

B.Eng. in Computer Science and Technology

- **GPA: 3.90 / 4.00.**
- Selected Courses of **A & A+**: Linear Algebra, Introduction to Complex Analysis, Foundation of Object-Oriented Programming, Software Engineering, Introduction to Artificial Intelligence, Introduction to Modern Cryptography, Fundamentals of Computer Graphics, A General Introduction to Economics, Writing and Communication.
- Member of **THU Natural Language Processing Group**, advised by Prof. Zhiyuan Liu.



## PUBLICATIONS & PREPRINT

- **Cheng Qian**, Xinran Zhao, Sherry Tongshuang Wu. [“Merge Conflicts!” Exploring the Impacts of External Distractors to Parametric Knowledge Graphs](#). ArXiv 2023.9.
- **Cheng Qian**, Chenyan Xiong, Zhenghao Liu, Zhiyuan Liu. [Toolink: Linking Toolkit Creation and Using through Chain-of-Solving on Open-Source Model](#). Under Review.
- **Cheng Qian**, Chi Han, Yi R. Fung, Yujia Qin, Zhiyuan Liu, Heng Ji. [CREATOR: Disentangling Abstract and Concrete Reasonings of Large Language Models through Tool Creation](#). Under Review.
- Yujia Qin, Shengding Hu, Yankai Lin, ... **Cheng Qian**, ..., Maosong Sun. [Tool Learning with Foundation Models](#). ArXiv 2023.4.
- **Cheng Qian\***, Yujia Qin\*, Xu Han, Yankai Lin, Huadong Wang, Ruobing Xie, Zhiyuan Liu, Maosong Sun, Jie Zhou. [Recyclable Tuning for Continual Pre-training](#). Findings of ACL 2023.
- **Cheng Qian\***, Yujia Qin\*, Jing Yi\*, Weize Chen, Yankai Lin, Xu Han, Zhiyuan Liu, Maosong Sun, Jie Zhou. [Exploring Mode Connectivity for Pretrained Language Models](#). EMNLP 2022.

\* indicates equal contributions.



## RESEARCH & PROJECT

**Undergraduate Research Assistant**

Aug 2021 – Present

- THUNLP, Tsinghua University, Advisor: Prof. Zhiyuan Liu
- Main Projects: Mode connectivity of pre-trained language model; Continual pre-training of large language model (LLM); Tool learning with foundation models; LLM as AI agent.

**Visiting Student**

Mar 2023 – Jun 2023

- Chenyan’s Research Group, Carnegie Mellon University, Advisor: Prof. Chenyan Xiong
- Main Projects: Open-source model adaptation of tool use ability.

**Visiting Student**

Mar 2023 – Jun 2023

- Blender Lab, University of Illinois at Urbana-Champaign, Advisor: Prof. Heng Ji
- Main Projects: LLM’s tool creation ability.

**Visiting Student**

Jun 2023 – Sep 2023

- WInE Lab, Carnegie Mellon University, Advisor: Prof. Sherry Tongshuang Wu
- Main Projects: External and parametric knowledge conflicts; Interpretability of LLM.

**Student Intern**

Jul 2021 – Aug 2021

- Beijing-Shanghai Summer Intern Program, VMware, Advisor: Yingji Sun
- Main Projects: Product software development.



## ACADEMIC INTERESTS

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- Tool learning and tool creation of LLM.
- LLM-driven AI agent, embodied AI.
- Instruction tuning and prompt tuning of LLM.
- Pre-training and parameter-efficient tuning of LLM.



## SELECTED AWARDS & HONORS

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- December-9th Scholarship, highest scholarship in Dept. of CST, **1 / 180**. 2021
- Volunteering & Social Survey Excellence Scholarship, Dept. of CST, **1 / 180**. 2022
- Awards of Excellent Student Cadre, Tsinghua University. 2021
- Five-Star (Highest Honor) Volunteer, Tsinghua University. 2022
- Second Prize in National Undergraduate Physics Competition, Beijing Physics Society. 2022
- Third Prize in THU Challenge Cup Academic Competition, Tsinghua University. 2022
- Honorable Mention in 2023 Mathematical Contest in Modeling 2023



## EXTRA-CURRICULUM SERVICE & EXPERIENCE

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- Reviewer, COLING 2022. 2022
- Olympic Family Assistant of IBSF President Ivo Ferriano and HRH Prince Jigyel Ugyen Wangchuck (Bhutan), 2022 Beijing Winter Olympics. 2022
- Member of Student Union and Student Association of Science and Technology, Tsinghua University. 2021-2023
- Member of Tsinghua Orienteering Team (Sport, Professional), Tsinghua University. 2020-2023
- Mentor of Tsinghua Summer School (Beijing), Tsinghua University. 2022



## SKILLS

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### English Skills

- TOEFL 115/120 (Reading 30, Listening 30, Speaking 26, Writing 29).
- GRE Verbal Reasoning 162/170, Quantitative Reasoning 170/170, Analytical Writing 4/6.

### Technical Skills

- Proficient in C/C++, Python(PyTorch), LaTeX, Linux, Java, React.
- Familiar with various neural networks and state-of-the-art deep learning techniques.