

# Qiusi Sun

MASTERS STUDENT · DATA SCIENCE

Shanghai, China / Singapore

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## Education

### The University of Hong Kong

PHD IN COMPUTER SCIENCE

- Natural Language Processing

Hong Kong SAR

September 2024 - TBD

### National University of Singapore

MSC IN DATA SCIENCE

- Natural Language Processing Research

Singapore

July 2022 - January 2024

### East China Normal University

BENG IN DATA SCIENCE AND TECHNOLOGY GPA: 3.77/4.0

- Computer System, Data Science, Machine Learning, Distributed Systems, Database, etc.
- Thesis: Knowledge Distillation based on Code Pre-Trained models (Best UG Thesis Award)

Shanghai, China

September 2018 - June 2022

## Research Experience

### Shanghai AI Laboratory

ADVISOR: DR. ZHIYONG WU

- Research Intern: Natural Language Processing (Large Language Models)

Shanghai, China

June 2023 - Present

### Institute for Infocomm Research (I<sup>2</sup>R), A\*STAR

ADVISOR: DR. XIAOLI LI (DEPT. HEAD & PRINCIPAL SCIENTIST)

- Research Intern: AI for Text Data Analytics

Singapore

January 2023 - June 2023

### School of Data Science and Engineering, East China Normal University

CO-ADVISORS: PROF. XIANG LI AND PROF. XUESONG LU

- Lightweight Deployment / Interpretability of Code Representation Models
- Parameter-Efficient Learning for NLP

Shanghai, China

October 2021 - October 2022

## Honors and Awards

2023	CIKM 2023 Best Demo Paper Award, ACM & SIGIR	
2022	Int'l Algorithm Case Competition: PLM Tuning, 2nd Prize, GD-HK-Macau Greater Bay Area	RMB 100,000
	Shanghai Outstanding Graduates, Shanghai Municipal Education Commission	
	Excellent Bachelor Thesis Award, East China Normal University	
2021	Outstanding Student, East China Normal University	
	First Class Scholarship, East China Normal University	RMB 5000
	Finalist (Special Class Prize), Mathematical and Interdisciplinary Contest in Modeling	
2020	Third Class Scholarship, East China Normal University	RMB 1,000
	Honorable Mention, Mathematical and Interdisciplinary Contest in Modeling	

## Publications

### PUBLISHED PAPERS & PREPRINTS

(\* indicate equal contribution, part of the manuscripts are currently available upon request due to anonymity requirement)

- [1] **Qiusi Sun**, Zhangyue Yin, Xiang Li, Zhiyong Wu, Xipeng Qiu and Lingpeng Kong. *Corex: Pushing the Boundaries of Complex Reasoning through Multi-Model Collaboration*. Under-Review of ICLR 2024. [\[Preprint\]](#)

- [2] Zhangyue Yin, Qiushi Sun, Qipeng Guo, Zhiyuan Zeng, Xiaonan Li, Tianxiang Sun, Xipeng Qiu and Xuanjing Huang. *Aggregation of Reasoning: A Hierarchical Framework for Enhancing Answer Selection in Large Language Models*. Under-Review of LREC-COLING 2024. [\[Paper\]](#)
- [3] Jianing Wang, Nuo Chen, **Qiushi Sun**, Wenkang Huang, Chengyu Wang and Ming Gao. *HugNLP: A Unified and Comprehensive Library for Natural Language Processing*. **CIKM 2023 (Best Demo Paper Award)**, Birmingham, UK. [\[Paper\]](#)
- [4] Nuo Chen, **Qiushi Sun**, Jianing Wang, Xiang Li and Ming Gao. *Pass-Tuning: Towards Structure-Aware Parameter-Efficient Tuning for Code Representation Learning*. EMNLP 2023, Singapore. [\[Paper\]](#)
- [5] Zhangyue Yin, **Qiushi Sun**, Qipeng Guo, Cheng Chang, Xipeng Qiu and Xuanjing Huang. *Exchange-of-Thought: Enhancing Large Language Model Capabilities through Cross-Model Communication*. EMNLP 2023, Singapore. [\[Paper\]](#) [\[Slides\]](#)
- [6] Jianing Wang, **Qiushi Sun**, Nuo Chen, Chengyu Wang, Ming Gao and Jun Huang. *Uncertainty-aware Parameter-Efficient Self-training for Semi-supervised Language Understanding*. EMNLP 2023, Singapore. [\[Paper\]](#)
- [7] Nuo Chen, **Qiushi Sun**, Jianing Wang, Ming Gao, Xiang Li and Xiaoli Li. *Evaluating and Enhancing the Robustness of Code Pre-trained Models through Structure-Aware Adversarial Samples Generation*. EMNLP 2023, Singapore. [\[Paper\]](#)
- [8] Jianing Wang\*, **Qiushi Sun\***, Nuo Chen, Xiang Li and Ming Gao. *Boosting Language Models Reasoning with Chain-of-Knowledge Prompting*. Preprint. [Preprint](#)
- [9] **Qiushi Sun**, Nuo Chen, Jianing Wang and Xiaoli Li. *Rethinking the Role of Structural Information: What Makes Code Pre-trained Models Work?* Preprint. [\[Preprint\]](#)
- [10] **Qiushi Sun**, Chengcheng Han, Nuo Chen, Renyu Zhu, Jingyang Gong, Xiang Li and Ming Gao. *Make Prompt-based Black-Box Tuning Colorful: Boosting Model Generalization from Three Orthogonal Perspectives*. Preprint. [\[Paper\]](#)
- [11] Zhangyue Yin, **Qiushi Sun**, Qipeng Guo, Jiawen Wu, Xipeng Qiu and Xuanjing Huang. *Do Large Language Models Know What They Don't Know?* ACL 2023, Toronto, Canada. [\[Paper\]](#) [\[Slides\]](#)
- [12] Chengcheng Han, Liqing Cui, Renyu Zhu, Jianing Wang, Nuo Chen, **Qiushi Sun**, Xiang Li and Ming Gao. *When Gradient Descent Meets Derivative-Free Optimization: A Match Made in Black-Box Scenario*. ACL 2023, Toronto, Canada. [\[Preprint\]](#)
- [13] **Qiushi Sun**, Nuo Chen, Jianing Wang, Xiang Li and Ming Gao. *TransCoder: Towards Unified Transferable Code Representation Learning Inspired by Human Skills*. Preprint. [\[Preprint\]](#)
- [14] Nuo Chen\*, **Qiushi Sun\***, Renyu Zhu\*, Xiang Li, Xuesong Lu and Ming Gao. *CAT-probing: A Metric-based Approach to Interpret How Pre-trained Models for PL Attend Code Structure*. EMNLP 2022, Abu Dhabi, UAE. [\[Paper\]](#) [\[Video\]](#) [\[Slides\]](#)

## Teaching Experience

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Fall 2021 **Teaching Assistant**, Deep Learning for Computer Vision  
**Instructed by Prof. Xuesong Lu**, School of Data Science and Engineering, ECNU

## Outreach & Professional Development & Skills

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### SKILLS

**Languages:** Mandarin & Shanghaiese (Native), English (Fluent, TOEFL-105, GRE-334 [\[Report\]](#)), German (Basic)

**Programming/Frameworks/Skills:** Python, PyTorch, Keras, SQL,  $\text{\LaTeX}$ , Flask, Huggingface, Technical Writing

### OUTREACH

Winter 2021 **Imperial College London**, Winter Exchange  
**Data Science & Computer Vision**, IC Data Science Winter School GPA: 4.0/4.0

### RESEARCH INTEREST

My research interests cover several aspects of natural language processing, with my current focus on:

- LLM-based Agents.
- Large Language Models for Code.
- Complex Reasoning.

### PROFESSIONAL SERVICE

Reviewer for EMNLP 2022/23, ACL 2023, CIKM 2023, ICLR 2024, ACL Rolling Review