

# JIANGJIE CHEN

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## BIOGRAPHY

**Jiangjie Chen** (陈江捷) is a final year Ph.D. candidate at Fudan University in the School of Computer Science, Shanghai, China. His interested research topics are mostly around **autonomous generative agents**, including (but are not limited to):

- **Autonomous Generative Agents:** Developing advanced methods for autonomous, trustworthy, and personalized language agents. This extends towards the exploration of their interactions with multiple agents and real environments.
- **Cognitive Modeling in Language Models:** Focusing on integrating elements from cognitive science into language models, such as the aspects of belief systems, analogical reasoning, Theory-of-Mind, etc. The goal is to augment the understanding of these agents regarding themselves and others, hence enabling them to generate more cognitively-aligned and human-like responses.
- **Reasoning and Strategic Planning:** Advancing research on equipping generative agents with human-level reasoning abilities and strategic planning capabilities. This involves designing and implementing methodologies to incorporate decision-making, counterfactual thinking, and other complex reasoning tasks in generative models.
- **Evaluation and Simulation Environments:** Establishing evaluation frameworks and creating simulation environments to assess the progress of generative agents. These aim to capture the multi-faceted aspects of generative intelligence, from basic belief consistency to advanced reasoning and planning capabilities.

## EDUCATION

- Fudan University** (Shanghai). Ph.D. in School of Computer Science 2019 - 2024
- **Shanghai Key Laboratory of Data Science, Knowledge Works Laboratory.**
  - Ph.D. Advisor: **Yanghua Xiao**.
  - Topics: Reasoning and Planning in Language Models, Knowledge-guided Language Generation.
- Fudan University** (Shanghai). B.S. in School of Computer Science (graduated with *honors*) 2014 - 2019
- **Shanghai Key Laboratory of Data Science, Knowledge Works Laboratory.**
  - Advisor: **Yanghua Xiao**.
  - Topics: Taxonomic Knowledge Graph Construction.

## EXPERIENCES

- Allen Institute for AI** (Seattle, WA, USA) Jun 2023 - Sep 2023
- Role: Research Intern, at **Aristo Team**
  - Mentor: **Kyle Richardson**
  - Manager: **Peter Clark**
  - Responsibilities: Work on multi-agent reasoning and planning with large language models.
- UC Santa Barbara** (Remote) Sep 2021 - May 2023
- Role: Visiting Research Intern
  - Host: **Lei Li**
  - Responsibilities: Work on machine reasoning over language with large language models.
- ByteDance AI Lab** (Shanghai, China) Nov 2019 - May 2023
- Role: Research Intern
  - Mentors: **Lei Li**, **Hao Zhou**, **Changzhi Sun**, **Jiaze Chen**
  - Manager: **Lei Li**
  - Responsibilities: Work on knowledge-guided text generation, and machine reasoning over language.
- Knowledge Works Laboratory at Fudan University** (Shanghai, China) Sep 2019 - Present
- Role: Student Research Lead
  - Responsibilities: Lead a research team on language generation and reasoning. Mentored nearly 20 graduate and undergraduate students over the past years. Together, we co-authored and published several research papers, including one that received an Outstanding Paper Award in ACL 2023.

## SELECTED AWARDS

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|--|------|
| <b>ACL 2023 Outstanding Paper Award</b>  | 2023 |
| <b>Huawei Scholarship</b>  | 2023 |
| <b>China National Scholarship for Doctoral Students</b>                                      | 2022 |
| <b>Honors Student Award in Computer Science of Top Talent Undergraduate Training Program</b> | 2019 |

## SELECTED PUBLICATIONS

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[\*: Equal Contribution; ♥: Me as Corresponding Author; ♠: Student I Mentored]

- [1] **TimeArena: Shaping Efficient Multitasking Language Agents in a Time-Aware Simulation**  
Yikai Zhang♠, Siyu Yuan♠, Caiyu Hu♠, Kyle Richardson, Yanghua Xiao, Jiangjie Chen♥.  
Preprint, 2024
- [2] **TravelPlanner: A Benchmark for Real-World Planning with Language Agents**  
Jian Xie\*♠, Kai Zhang\*, **Jiangjie Chen**, Tinghui Zhu♠, Renze Lou, Yuandong Tian, Yanghua Xiao, Yu Su.  
Preprint, 2024.
- [3] **Adaptive Chameleon or Stubborn Sloth: Revealing the Behavior of Large Language Models in Knowledge Conflict**  
Jian Xie\*♠, Kai Zhang\*, **Jiangjie Chen**, Renze Lou, Yu Su.  
Regular paper, in: **ICLR 2024**, *Spotlight*.
- [4] **Put Your Money Where Your Mouth Is: Evaluating Strategic Planning and Execution of LLM Agents in an Auction Arena**  
**Jiangjie Chen**, Siyu Yuan♠, Rong Ye, Bodhisattwa Prasad Majumder, Kyle Richardson.  
Preprint, 2023.
- [5] **Distilling Script Knowledge from Large Language Models for Constrained Language Planning**  
Siyu Yuan♠, **Jiangjie Chen**♥, Ziquan Fu♠, Xuyang Ge♠, Soham Shah, Charles Robert Jankowski, Yanghua Xiao, Deqing Yang.  
Long paper, in: **ACL 2023**, *Outstanding Paper Award*.
- [6] **E-KAR: A Benchmark for Rationalizing Natural Language Analogical Reasoning**  
**Jiangjie Chen**, Rui Xu♠, Ziquan Fu♠, Wei Shi♠, Zhongqiao Li♠, Xinbo Zhang, Changzhi Sun, Lei Li, Yanghua Xiao and Hao Zhou.  
Long paper, in: **Findings of ACL 2022**.
- [7] **LoReN: Logic-Regularized Reasoning for Interpretable Fact Verification**  
**Jiangjie Chen**, Qiaoben Bao♠, Changzhi Sun, Xinbo Zhang, Jiaze Chen, Hao Zhou, Yanghua Xiao, Lei Li.  
Regular paper, in: **AAAI 2022**.

## MORE PUBLICATIONS

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[\*: Equal Contribution; ♥: Me as Corresponding Author; ♠: Student I Mentored]

- [8] **GumbelSoft: Diversified Language Model Watermarking via the GumbelMax-trick**  
Jiayi Fu♠, Xuandong Zhao, Ruihan Yang♠, Yuansen Zhang, **Jiangjie Chen**, Yanghua Xiao.  
Preprint, 2024.
- [9] **InCharacter: Evaluating Personality Fidelity in Role-Playing Agents through Psychological Interviews**  
Xintao Wang♠, Yunze Xiao, Jen-tse Huang, Siyu Yuan♠, Rui Xu♠, Haoran Guo, Quan Tu, Yaying Fei, Ziang Leng, Wei Wang, **Jiangjie Chen**, Cheng Li, Yanghua Xiao.  
Preprint, 2024.
- [10] **EASYTOOL: Enhancing LLM-based Agents with Concise Tool Instruction**  
Siyu Yuan♠, Kaitao Song\*, **Jiangjie Chen**, Xu Tan, Yongliang Shen, Ren Kan, Dongsheng Li, Deqing Yang.  
Preprint, 2024.
- [11] **Translate Meanings, Not Just Words: IdiomKB's Role in Optimizing Idiomatic Translation with Language Models**  
Shuang Li♠, **Jiangjie Chen**♥, Siyu Yuan♠, Xinyi Wu♠, Hao Yang, Shimin Tao, Yanghua Xiao.  
Regular paper, in: **AAAI 2024**.
- [12] **AnalogyKB: Unlocking Analogical Reasoning of Language Models with A Million-scale Knowledge Base**  
Siyu Yuan♠, **Jiangjie Chen**\*, Changzhi Sun, Jiaqing Liang, Yanghua Xiao, Deqing Yang.  
Preprint, 2023
- [13] **Beneath Surface Similarity: Large Language Models Make Reasonable Scientific Analogies after Structure Abduction**  
Siyu Yuan♠, **Jiangjie Chen**♥, Xuyang Ge♠, Yanghua Xiao, Deqing Yang.  
Long paper, in: **Findings of EMNLP 2023**.
- [14] **Say What You Mean! Large Language Models Speak Too Positively about Negative Commonsense Knowledge**  
**Jiangjie Chen**, Wei Shi♠, Ziquan Fu♠, Sijie Cheng, Lei Li, Yanghua Xiao.  
Long paper, in: **ACL 2023**.
- [15] **Converge to the Truth: Factual Error Correction via Iterative Constrained Editing**

- Jiangjie Chen\***, Rui Xu\*, Wenxuan Zeng, Changzhi Sun, Lei Li, Yanghua Xiao.  
Regular paper, in: **AAAI 2023**.
- [16] **Unsupervised Explanation Generation via Correct Instantiations**  
Sijie Cheng, Zhiyong Wu, **Jiangjie Chen**, Zhixing Li, Yang Liu, Lingpeng Kong.  
Regular paper, in: **AAAI 2023**.
- [17] **Harnessing Knowledge and Reasoning for Human-Like Natural Language Generation: A Brief Review**  
**Jiangjie Chen**, Yanghua Xiao.  
Invited paper, in: **Bulletin of the IEEE Technical Committee on Data Engineering (2022)**
- [18] **Neighbors Are Not Strangers: Improving Non-Autoregressive Translation under Low-Frequency Lexical Constraints**  
Chun Zeng\*, **Jiangjie Chen\***, Tianyi Zhuang, Rui Xu, Hao Yang, Ying Qin, Shimin Tao, Yanghua Xiao.  
Long paper, in: **NAACL 2022**.
- [19] **FalCon: A Faithful Contrastive Framework for Response Generation in TableQA Systems**  
Shineng Fang, **Jiangjie Chen**, Xinyao Shen, Yunwen Chen, Yanghua Xiao.  
Long paper, in: **DASFAA 2022**.
- [20] **Unsupervised Editing for Counterfactual Stories**  
**Jiangjie Chen**, Chun Gan, Sijie Cheng, Hao Zhou, Yanghua Xiao, Lei Li.  
Regular paper, in: **AAAI 2022**.
- [21] **Diversified Query Generation Guided with Knowledge Graph**  
Xinyao Shen, **Jiangjie Chen**, Jiaze Chen, Chun Zeng, Yanghua Xiao.  
Long paper, in: **WSDM 2022**.
- [22] **Harvesting More Answer Spans from Paragraphs beyond Annotation**  
Qiaoben Bao, **Jiangjie Chen**, Linfang Liu, Jiaqing Liang, Jingping Liu, Yanghua Xiao.  
Long paper, in: **WSDM 2022**.
- [23] **Diversified Paraphrase Generation with Commonsense Knowledge Graph**  
Xinyao Shen, **Jiangjie Chen**, Yanghua Xiao.  
Long paper, in: **NLPCC 2021**.
- [24] **Probabilistic Graph Reasoning for Natural Proof Generation**  
Changzhi Sun\*, Xinbo Zhang\*, **Jiangjie Chen**, Chun Gan, Yuanbin Wu, Jiaze Chen, Hao Zhou, Lei Li.  
Long paper, in: **Findings of ACL 2021**.
- [25] **Ensuring Readability and Data-fidelity using Head-modifier Templates in Deep Type Description Generation**  
**Jiangjie Chen**, Ao Wang, Haiyun Jiang, Suo Feng, Chenguang Li, Yanghua Xiao.  
Long paper, in: **ACL 2019**.
- [26] **CN-Probbase: A Data-driven Approach for Large-scale Chinese Taxonomy Construction**  
Jindong Chen, Ao Wang, **Jiangjie Chen**, Yanghua Xiao, Zhendong Chu, Jingping Liu, Jiaqing Liang, Wei Wang.  
Short paper, in: **ICDE 2019**. (CN-Probbase has achieved near 100 million API calls at <http://kw.fudan.edu.cn/cnprobbase>.)

## ACADEMIC SERVICES

- Serving as a Program Committee/Reviewer of ARR (2023-), ACL (2023-), EMNLP (2021-), AAAI (2021-), WSDM (2023), NLPCC (2021-), ICDE (2024), and some corresponding workshops.
- Serving as a Journal Reviewer of TPAMI (2022), APIN (2022-2023).
- Served as a Secondary Reviewer of ACL, EMNLP, EACL, KDD, CIKM, SIGIR, etc.

## MENTORING

[\*Knowledge Cutoff: Feb 2024]

<b>Siyu Yuan</b> , Ph.D. student at Fudan University [1][4][5][9][10][12][13]	Feb 2022 - Present
<b>Rui Xu</b> , M.S. student at Fudan University → Ph.D. student at Fudan University [6][9][15][18]	May 2021 - Present
<b>Ziquan Fu</b> , B.S. student at Minerva University → Research Engineer at System Inc. [5][14][6]	May 2020 - Present
<b>Yikai Zhang</b> , Ph.D. student at Fudan University [1]	May 2023 - Present
<b>Xintao Wang</b> , Ph.D. student at Fudan University [9]	Nov 2023 - Present
<b>Ruihan Yang</b> , Ph.D. student at Fudan University [8]	Jun 2023 - Present
<b>Aili Chen</b> , B.S. student at Fudan University → Ph.D. student at Fudan University	Oct 2023 - Present
<b>Wei Shi</b> , M.S. student at Fudan University [6][14]	Aug 2021 - Present
<b>Jian Xie</b> , M.S. student at Fudan University [2][3]	Apr 2022 - Present
<b>Shuang Li</b> , M.S. student at Fudan University [11]	Sep 2021 - Present
<b>Jiayi Fu</b> , M.S. student at Fudan University [8]	Nov 2022 - Present

Tinghui Zhu, M.S. student at Fudan University [2]	Dec 2023 - Present
Xuyang Ge, B.S. student at Fudan University → M.S. student at Fudan University [5][13]	Jul 2022 - Present
Caiyu Hu, B.S. student at Shanghai University → M.S. student at Fudan University [1]	Sep 2023 - Present
Siye Wu, B.S. student at Wuhan University → M.S. student at Fudan University	Aug 2023 - Present
Tianhe Lin, B.S. student at Fudan University → M.S. student at Fudan University	Jan 2024 - Present
Scott (Zeshen) Ren, B.S. student at UC Santa Barbara	Aug 2023 - Present
Xinyi Wu, B.S. student at Fudan University → Ph.D. student at Fudan University [11]	Jul 2022 - Aug 2023
Kerun Yu, B.S. student at Fudan University → M.S. student at Columbia University	Jul 2022 - May 2023
Wenxuan Zeng, B.S. student at UESTC → Ph.D. student at Peking University [15]	Feb 2022 - Nov 2022
Yulin Song, B.S. student at Fudan University → M.S. student at New York University	Sep 2020 - May 2023
Chun Zeng, M.S. student at Fudan University → Engineer at ByteDance [18][21]	Sep 2020 - May 2023
Tianyi Zhuang, M.S. student at Fudan University → Research Engineer at Huawei [18]	Sep 2019 - May 2023
Qiaoben Bao, M.S. student at Fudan University → Research Engineer at ByteDance [7][22]	May 2020 - May 2022
Shineng Fang, M.S. student at Fudan University → Research Engineer at Alibaba [19]	Sep 2019 - Jan 2022
Xinyao Shen, M.S. student at Fudan University → Research Engineer at ByteDance [19][21][23]	Sep 2019 - May 2022