Jiangjie Chen

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Biography

Jiangjie Chen (陈江捷) is a researcher at ByteDance. His interested research topics are mostly around **reasoning, planning, and autonomous generative agents**, including (but are not limited to):

- **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.
- **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.

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

ByteDance (Shanghai, China)   Jul 2024 - Present
- Role: Researcher, at Seed Team
- Manager: Mingxuan Wang

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 - Jun 2024
- 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

Excellent Graduates of Shanghai	2024
ACL 2023 Outstanding Paper Award	2023
Huawei Scholarship	2023
China National Scholarship for Doctoral Students	2022
Honors Student Award in Computer Science of Top Talent Undergraduate Training Program	2019

Selected Publications

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

[1] **TravelAgent: An AI Assistant for Personalized Travel Planning**
Aili Chen♠, Xuyang Ge, Ziquan Fu, Yanghua Xiao, **Jiangjie Chen**♡.
Preprint, 2024.

[2] **TimeArena: Shaping Efficient Multitasking Language Agents in a Time-Aware Simulation**
Yikai Zhang♠, Siyu Yuan♠, Caiyu Hu♠, Kyle Richardson, Yanghua Xiao, **Jiangjie Chen**♡.
Long paper, in: **ACL 2024**.

[3] **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.
Regular paper, in: **ICML 2024**, *Spotlight*.

[4] **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*.

[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

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

[8] **SEGMENT+: Long Text Processing with Short-Context Language Models**
Wei Shi♠, Shuang Li♠*, Kerun Yu*, Jinglei Chen, Zujie Liang, Xinhui Wu, Yuxi Qian, Feng Wei, Bo Zheng, Jiaqing Liang, **Jiangjie Chen**♡, Yanghua Xiao.
Long paper, in: **EMNLP 2024**.

[9] **Past Meets Present: Creating Historical Analogy with Large Language Models**
Nianqi Li♠, Siyu Yuan♠, **Jiangjie Chen**♡, Jiaqing Liang, Feng Wei, Zujie Liang, Deqing Yang, Yanghua Xiao.
Preprint, 2024.

[10] **SelfGoal: Your Language Agents Already Know How to Achieve High-level Goals**
Ruihan Yang♠, **Jiangjie Chen**♡, Yikai Zhang♠, Siyu Yuan♠, Aili Chen♠, Kyle Richardson, Yanghua Xiao, Deqing Yang.
Preprint, 2024.

[11] **How Easily do Irrelevant Inputs Skew the Responses of Large Language Models?**
Siye Wu♠*, Jian Xie♠*, **Jiangjie Chen**, Tinghui Zhu♠, Kai Zhang, Yanghua Xiao.
Regular paper, in: **COLM 2024**.

[12] **EvoAgent: Towards Automatic Multi-Agent Generation via Evolutionary Algorithms**
Siyu Yuan*♠, Kaitao Song*, **Jiangjie Chen**, Xu Tan, Dongsheng Li, Deqing Yang.
Preprint, 2024.

[13] **From Persona to Personalization: A Survey on Role-Playing Language Agents**
Jiangjie Chen*, Xintao Wang*♠, Rui Xu*♠, Siyu Yuan*♠, Yikai Zhang*♠, Wei Shi*♠, Jian Xie*♠, Shuang Li♠, Ruihan Yang♠, Tinghui Zhu♠, Aili Chen♠, Nianqi Li♠, Lida Chen♠, Caiyu Hu♠, Siye Wu♠, Scott Ren♠, Ziquan Fu, Yanghua Xiao.
Journal paper, in: **TMLR 2024**.

[14] **SurveyAgent: A Conversational System for Personalized and Efficient Research Survey**
Xintao Wang♠*, **Jiangjie Chen***, Nianqi Li♠, Lida Chen♠, Xinfeng Yuan♠, Wei Shi♠, Xuyang Ge♠, Rui Xu♠, Yanghua Xiao.
Preprint, 2024.

[15] **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.

Long paper, in: **ACL 2024**.

[16] **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.
Long paper, in: **ACL 2024**.

[17] **GumbelSoft: Diversified Language Model Watermarking via the GumbelMax-trick**
Jiayi Fu♠, Xuandong Zhao, Ruihan Yang♠, Yuansen Zhang, **Jiangjie Chen**, Yanghua Xiao.
Long paper, in: **ACL 2024**.

[18] **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.
Regular paper, in: **ICLR 2024 Workshop on LLM Agents**.

[19] **AgentGroupChat: An Interactive Group Chat Simulacra For Better Eliciting Collective Emergent Behavior**
Zhouhong Gu, Xiaoxuan Zhu, Haoran Guo, Lin Zhang, Yin Cai, Hao Shen, **Jiangjie Chen**, Zheyu Ye, Yifei Dai, Yan Gao, Yao Hu, Hongwei Feng, Yanghua Xiao.
Preprint, 2024.

[20] **Character is Destiny: Can Large Language Models Simulate Persona-Driven Decisions in Role-Playing?**
Rui Xu♠, Xintao Wang♠, **Jiangjie Chen**, Siyu Yuan♠, Xinfeng Yuan♠, Jiaqing Liang, Zulong Chen, Xiaoqing Dong, Yanghua Xiao.
Preprint, 2024.

[21] **Evaluating Character Understanding of Large Language Models via Character Profiling from Fictional Works**
Xinfeng Yuan♠, Siyu Yuan♠*, Yuhan Cui♠*, Tianhe Lin♠, Xintao Wang♠, Rui Xu♠, **Jiangjie Chen**, Deqing Yang.
Long paper, in: **EMNLP 2024**.

[22] **DetectBench: Can Large Language Model Detect and Piece Together Implicit Evidence?**
Zhouhong Gu, Lin Zhang, Xiaoxuan Zhu, **Jiangjie Chen**, Wenhao Huang, Yikai Zhang♠, Shusen Wang, Zheyu Ye, Yan Gao, Hongwei Feng, Yanghua Xiao
Long paper, in: **Findings of EMNLP 2024**.

[23] **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**.

[24] **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.

[25] **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**.

[26] **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**.

[27] **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**.

[28] **Unsupervised Explanation Generation via Correct Instantiations**
Sijie Cheng, Zhiyong Wu, **Jiangjie Chen**, Zhixing Li, Yang Liu, Lingpeng Kong.
Regular paper, in: **AAAI 2023**.

[29] **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)**

[30] **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**.

[31] 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**.

[32] Unsupervised Editing for Counterfactual Stories
Jiangjie Chen, Chun Gan, Sijie Cheng, Hao Zhou, Yanghua Xiao, Lei Li.
Regular paper, in: **AAAI 2022**.

[33] Diversified Query Generation Guided with Knowledge Graph
Xinyao Shen♠, **Jiangjie Chen**, Jiaze Chen, Chun Zeng♠, Yanghua Xiao.
Long paper, in: **WSDM 2022**.

[34] 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**.

[35] Diversified Paraphrase Generation with Commonsense Knowledge Graph
Xinyao Shen♠, **Jiangjie Chen**, Yanghua Xiao.
Long paper, in: **NLPCC 2021**.

[36] 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**.

[37] 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**.

[38] CN-Probase: 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-Probase has achieved near 100 million API calls at http://kw.fudan.edu.cn/cnprobase.)

Academic Services

- Serving as a Program Committee/Reviewer of COLM (2024), 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: Jun 2024]

Siyu Yuan, Ph.D. student at Fudan University [9][10][2][24][5][16][13][18][23][15][25][20][21][12]		Feb 2022 - Present
Rui Xu, M.S. student → Ph.D. student at Fudan University [13][6][16][27][30][14][20][21]		May 2021 - Present
Yikai Zhang, Ph.D. student at Fudan University [10][13][2][22]		May 2023 - Present
Xintao Wang, Ph.D. student at Fudan University [13][16][14][20][21]		Nov 2023 - Present
Ruihan Yang, Ph.D. student at Fudan University [10][13][17]		Jun 2023 - Present
Aili Chen, B.S. student → Ph.D. student at Fudan University [1][10][13]		Oct 2023 - Present
Lida Chen, Ph.D. student at Fudan University [13][14]		Dec 2023 - Present
Jian Xie, M.S. student at Fudan University [13][3][4][11]		Apr 2022 - Present
Wei Shi, M.S. student at Fudan University [8][13][6][26][14]		Aug 2021 - Present
Shuang Li, M.S. student at Fudan University [8][13][23]		Sep 2021 - Present
Jiayi Fu, M.S. student at Fudan University [17]		Nov 2022 - Present
Tinghui Zhu, M.S. student at Fudan University [13][3][11]		Dec 2023 - Present
Xinfeng Yuan, M.S. student at Fudan University [14][20][21]		Sep 2023 - Present
Nianqi Li, M.S. student at Fudan University [9][14][13]		Dec 2023 - Present
Caiyu Hu, B.S. student at Shanghai University → M.S. student at Fudan University [13][2]		Sep 2023 - Present
Siye Wu, B.S. student at Wuhan University → M.S. student at Fudan University [13][11]		Aug 2023 - Present
Tianhe Lin, B.S. student at Fudan University → M.S. student at Fudan University [21]		Jan 2024 - Present
Scott (Zeshen) Ren, B.S. student at UC Santa Barbara [13]		Aug 2023 - May 2024
Xuyang Ge, B.S. student at Fudan University → M.S. student at Fudan University [1][5][25][14]		Jul 2022 - Jan 2024
Ziquan Fu, B.S. student at Minerva University → Research Engineer at System Inc. [1][13][5][6][26]		May 2020 - May 2023
Xinyi Wu, B.S. student at Fudan University → Ph.D. student at Fudan University [23]		Jul 2022 - Aug 2023
Kerun Yu, B.S. student at Fudan University → M.S. student at Columbia University [8]		Jul 2022 - May 2023

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Wenxuan Zeng, B.S. student at UESTC → Ph.D. student at Peking University [27]   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 [30][33]   Sep 2020 - May 2023
Tianyi Zhuang, M.S. student at Fudan University → Research Engineer at Huawei [30]   Sep 2019 - May 2023
Qiaoben Bao, M.S. student at Fudan University → Research Engineer at ByteDance [7][34]   May 2020 - May 2022
Shineng Fang, M.S. student at Fudan University → Research Engineer at Alibaba [31]   Sep 2019 - Jan 2022
Xinyao Shen, M.S. student at Fudan University → Research Engineer at ByteDance [31][33][35] Sep 2019 - May 2022