# FAN ZHOU

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## **EDUCATION**

### Shanghai Jiao Tong University

2021 - Present

M.S. in Computer Science and Technology, expected Mar. 2024

(GPA 3.7/4.0)

Supervisor: Prof. Fan Cheng & Prof. Hongfei Fu.

#### Shanghai Jiao Tong University

2017 - 2021

B.S. in Computer Science and Technology (IEEE Honor Class)

(GPA 3.9/4.3, Ranking 8/110)

## **EXPERIENCES**

## Research Intern, XLang Lab @HKUNLP Group

March. 2023 - Now

Advisor: Prof. Tao Yu Mainly focus on:

- 1. Language Agent Interface & Platform: "Re-produce" Chatgpt Plus & develop a platform for language models as agents [1]
- 2. Agentic Language Models: Pretraining & supervised fine-tuning based on Llama-2 70B [2]

#### **Work on Symbolic Reasoning in Language Models**

Aug. 2022 – March. 2023

Worked with: Qian Liu & Haoyu Dong

Mainly focus on:

- 1. Symbolic Tasks for Instruction Tuning: Utilizing symbolic languages (e.g., SQL) as instruction data [3]
- 2. Reasoning Ability in Language Models [4]

#### Research Intern, MicroSoft Research Asia, DKI Group

Oct. 2021 – Aug. 2022

Mentor: Haoyu Dong (Senior Researcher)

Mainly focus on:

- 1. Question Answering (especially numerical reasoning) over Semi-structured Tables [5]
- 2. Table Pre-training [6]
- 3. Formula Prediction Product Demo for Excel

## Research Intern, SJTU John Hopcroft Center, Interpretable ML lab

Apr. 2019 – Dec. 2019

Advisor: Prof. Quanshi Zhang

Mainly focus on:

- 1. Analysis on Normalizing Flows' Expression Flaws [7]
- 2. Interpretability of Neural Networks [8]

#### PUBLICATIONS

(\* denotes equal contribution) For full publications, please check: Google Scholar, Semantic Scholar

- [1] OpenAgents: an Open Platform for Language Agent in the Wild Tianbao Xie\*, Fan Zhou\*, Zhoujun Cheng\*, Peng Shi\*, Luoxuan Weng\*, Yitao Liu\*, Toh Jing Hua, Junning Zhao, Qian Liu, Che Liu, Leo Z. Liu, Yiheng Xu, Hongjin Su, Dongchan Shin, Caiming Xiong, Tao Yu. Preprint, 2023. | Code | Online Demo | 6,500+ Real Users!
- [2] Lemur: Harmonizing Natural Language and Code for Language Agents

Yiheng Xu\*, Hongjin Su\*, Chen Xing\*, Boyu Mi, Qian Liu, Weijia Shi, Binyuan Hui, **Fan Zhou**, Yitao Liu, Tianbao Xie, Zhoujun Cheng, Siheng Zhao, Lingpeng Kong, Bailin Wang, Caiming Xiong, Tao Yu. (In charge of evaluation part)

ICLR-2024 (Spotlight, 5%). | Code

[3] From Zero to Hero: Examining the Power of Symbolic Tasks in Instruction Tuning Qian Liu\*, Fan Zhou\*, Longxu Dou, Zhengbao Jiang, Min Lin. Preprint, 2023.

[4] Reflection of Thought: Inversely Eliciting Numerical Reasoning in Language Models vis Solving Linear Systems

**Fan Zhou**\*, Haoyu Dong\*, Qian Liu, Zhoujun Cheng, Shi Han, Dongmei Zhang. **Neurips-22**'MATH-AI Workshop.

- [5] Tacube: Pre-computing Data Cubes for Answering Numerical-Reasoning Questions over Tabular Data Fan Zhou, Mengkang Hu, Haoyu Dong, Zhoujun Cheng, Fan Cheng, Shi Han, and Dongmei Zhang. EMNLP-2022 (Oral).
- [6] Table Pre-training: A Survey on Model Architectures, Pretraining Objectives, and Downstream Tasks Haoyu Dong, Zhoujun Cheng, Xinyi He, Mengyu Zhou, Anda Zhou, Fan Zhou, Ao Liu, Shi Han, Dongmei Zhang. IJCAI-2022.
- [7] Exploring Image Regions Not Well Encoded by an INN Zenan Ling, **Fan Zhou**, Meng Wei, Quanshi Zhang. **AISTATS-2022**.
- [8] Quantification and Analysis of Layer-wise and Pixel-wise Information Discarding Haotian Ma, Hao Zhang, Fan Zhou, Yinqing Zhang, Quanshi Zhang. ICML-2022.

## SKILLS

- Programming Languages: Python > C++ > TypeScript
- Frameworks & Tools for DL: PyTorch, Huggingface-transformers, wandb > fairseq
- Language Skills: TOEFL (103/120, in 2019), CET-6 (641/710)
- Others: LaTeX, Markdown, Shell

#### ♥ Honors and Awards

MSRA Stars of Tomorrow(Award of Excellent Intern)	2022
Outstanding Graduates of SJTU	2021
SJTU Academic Scholarship	2017–2020
Shanghai City Scholarship(≈ 5%)	2018