

# Mr. Yuxiao Ye

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**Research Interests:** Deep Reinforcement Learning; LLM Agent; Text-to-SQL



## EDUCATION

**Beijing Institute of Technology** (985 & 211 project university) **2022.09-Present**  
*MSc in Computer Science and Technology* Supervisor: Prof. Chi (Harold) Liu, *FIET, FBCS* GPA: 3.6/4.0  
Core Courses: Language Information Processing, Artificial Intelligence, Statistical Pattern Recognition, Information Retrieval

**Beijing Institute of Technology** **2018.09-2022.06**  
*BSc in Computer Science and Technology* Average Score: 88.6 GPA: 3.6/4.0 (rank: 7/56)  
Core Courses: Mathematical Analysis (93/100), Probability and Statistics (96/100), Algorithm Design and Analysis (95/100), Methods and Practice of Program Design (98/100), Data Structure (92/100), C Programming (94/100)



## PUBLICATIONS

- **[CCFA - ICDE]** Yuxiao Ye, Chi Harold Liu, et al., “Exploring both Individuality and Cooperation for Air-Ground Spatial Crowdsourcing by Multi-Agent Deep Reinforcement Learning,” in *IEEE ICDE*, 2023.
- **[CCFA - JSAC]** Yuxiao Ye\*, Hao Wang\*, Chi Harold Liu, et al., “QoI-Aware Mobile Crowdsensing for Metaverse by Multi-Agent Deep Reinforcement Learning,” in *IEEE Journal on Selected Areas in Communications (JSAC)*, 2024.
- **[CCFA - INFOCOM]** Zipeng Dai, Chi Harold Liu, Yuxiao Ye, et al., “AoI-minimal UAV Crowdsensing by Model-based Graph Convolutional Reinforcement Learning,” in *IEEE INFOCOM*, 2022.
- Bin Zhang\*, Yuxiao Ye\*, et al., “SQLBench: A Comprehensive Evaluation for Text-to-SQL Capabilities of Large Language Models,” Submitted to *NeurIPS 2024*. **Score: 86554**
- Zhishuai Li\*, Xiang Wang\*, Jingjing Zhao\*, Sun Yang\*, Guoqing Du\*, Xiaoru Hu\*, Bin Zhang\*, Yuxiao Ye\*, et al., “PET-SQL: A Prompt-enhanced Two-stage Text-to-SQL Framework with Cross-consistency,” *Arxiv Preprint*.



## HONORS and AWARD

**Grand Prize** in "China Collegiate Computing Contest - AI Innovation Contest" (awarded 4/3400+) **2022**  
**National Scholarship** **2023**  
Outstanding Graduate Student, Beijing Institute of Technology **2023**  
Outstanding Undergraduate Student, Beijing Institute of Technology **2022**  
First-Class Academic Scholarship, Beijing Institute of Technology **2022, 2023**



## RESEARCH EXPERIENCES

**Research Assistant, Mobile Crowdsensing by Deep Reinforcement Learning** **2021.06-Present**

- Proposed a multi-agent DRL framework, which consists of an intrinsic reward driven exploitation of agent’s individuality, enabling the accurate division of work, and a meta-learning based policy optimization, facilitating flexible cooperation modeling among agents.
- Proposed a multi-agent DRL framework, with a traffic flow prediction mechanism based on spatial-temporal transformer, and a graph-based inter-agent communication method, to achieve efficient path planning for agents.

**Intern, SenseTime Large Language Model Group** **2023.12-2024.05**

- Constructed a new Text-to-SQL benchmark to mitigate overfitting in LLMs, conducted comprehensive evaluations on five Text-to-SQL sub-tasks across six LLMs, identified the distinct capabilities and limitations of LLMs, and proposed optimal in-context learning solutions tailored to each sub-task.
- Proposed an LLM-based Text-to-SQL framework, consisting of an enhancement of in-context learning and schema linking, and a cross-consistency mechanism across different models, which **achieves new SOTA results on the Spider benchmark with an accuracy of 87.6%.**



## COMPUTER SKILLS

Programming: Python, SQL, C/C++/C#, Java, Matlab  
Software: Pytorch, Tensorflow, Hugging Face Transformers, DeepSpeed