

# Kang Xu

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## Education

### Fudan University

M.S. in Computer Application Technology

- Advised by Wei Li; GPA: 3.33/4.

Shanghai, China

Sep. 2021 - Present

### Donghua University

B.S. in Automation

- GPA: 4.25/5, Rank: 2/131.

Shanghai, China

Seq. 2017 - Jun. 2021

## Research Interest

I am broadly interested in research on **Reinforcement Learning**, and my current research interest mainly focuses on:

- *Generalization & Adaptation* (Cross-Dynamics/Rewards/Embodiment; Meta RL; Robustness; RL Pre-training)
- *Learning with Prior Knowledge* (Learning from Demonstration; Offline-Online; Policy/Primitive/Skill Reuse)
- *Human-in-the-Loop* (Task Specification with Preferences / Symbolic Representation / Language Instruction)

## Publications & Preprints

### Diffusion Model is an Effective Planner and Data Synthesizer for Multi-Task Reinforcement Learning

arXiv preprint, under review

- Haoran He, Chenjia Bai, Kang Xu, Zhuoran Yang, Weinan Zhang, Zhen Wang, Bin Zhao, Xuelong Li

Preprint

2023

### On the Value of Myopic Behavior in Policy Reuse [paper]

arXiv preprint, under review

- Kang Xu, Chenjia Bai, Shuang Qiu, Haoran He, Bin Zhao, Zhen Wang, Wei Li, Xuelong Li

Preprint

2023

### Cross-Domain Policy Adaptation via Value-Guided Data Filtering [paper]

arXiv preprint, under review

- Kang Xu, Chenjia Bai, Xiaoteng Ma, Dong Wang, Bin Zhao, Zhen Wang, Xuelong Li, Wei Li

Preprint

2023

### Open-Ended Diverse Solution Discovery with Regulated Behavior Patterns for Cross-Domain Adaptation [paper]

Association for the Advancement of Artificial Intelligence (AAAI)

- Kang Xu, Yan Ma, Bingsheng Wei, Wei Li

Oral

2023

### Quantification before Selection: Active Dynamics Preference for Robust Reinforcement Learning [paper]

arXiv preprint

- Kang Xu, Yan Ma, Wei Li

Preprint

2022

### Dynamics-aware novelty search with behavior repulsion [paper]

Genetic and Evolutionary Computation Conference (GECCO)

- Kang Xu, Yan Ma, Wei Li

Poster

2022

### Evolutionary Action Selection for Gradient-Based Policy Learning [paper]

International Conference on Neural Information Processing (ICONIP)

- Yan Ma, Tianxing Liu, Bingsheng Wei, Yi Liu, Kang Xu, Wei Li

Oral

2022

## Work Experience

### Shanghai Artificial Intelligence Laboratory

Research Intern

- Research on Reinforcement Learning. Mentored by Chenjia Bai.

Shanghai, China

Nov. 2022 - Present

### Netease Leihuo - Fuxi Tech - Game AI

Algorithm Engineer Intern

- **Doudizhu AI Implementation.** Embed the existing SOTA Doudizhu AI "Douzero" to the internal Reinforcement Learning platform RLEase, and refine "Douzero" from the perspectives of feature engineering and model architecture. Develop novel algorithms that improve the credit assignment mechanism. The developed agent was once ranked in the top 10 out of over four hundred bots on the [botzone](#) gaming platform.
- **Implementation of General Card Game Simulator.** Developed a general card game simulation framework whose game rules, number of players, and cards are customizable for training RL strategies of various card games.

Hangzhou, China

Jun. 2021 - Aug. 2021

## Honors & Awards

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2018	National Scholarship (1%)	Shanghai, China
2019	National Scholarship (1%)	Shanghai, China
2018	Donghua University Scholarship (5%)	Donghua Univerisity
2019	Donghua University Scholarship (5%)	Donghua Univerisity
2020	Donghua University Scholarship (5%)	Donghua Univerisity
2021	Shanghai Outstanding Graduates	Shanghai, China
2019	Tongqi Innovation and Entrepreneurship Scholarship	Shanghai, China
2019	2nd Prize, National University Students Intelligent Car Race Competition National	Shandong, China
2019	1st Prize, National Undergraduate Electronics Design Contest (Shanghai)	Shanghai, China
2019	Honorable Mention, Mathematical Contest In Modeling	Shanghai, China
2020	Huawei Scholarship	Shanghai, China