

Chenjia Bai (白辰甲)

Email: bai_chenjia@163.com

Birth: 1993.11.4

Phone: +86-15202142112

Homepage: baichenjia.github.io



Research Interest: Reinforcement Learning, Embodied AI, Large-Scale Decision Model

Work Experience

May 2022 – Present **Shanghai AI Laboratory. Researcher**

Research Directions: Reinforcement Learning and Embodied AI for applications on Generalized Manipulation and Quadrupedal Robots

Education

Mar 2021 – May 2022 **Joint Ph.D. Training, Computer Science, University of Toronto**
advised by Prof. [Animesh Garg](#)

Sep 2017 – May 2022 **Ph.D., School of Computer Science and Technology, HIT**
advised by Prof. [Peng Liu](#)

Sep 2015 – July 2017 **Master, School of Computer Science and Technology, HIT**
Major: Computer vision, Data mining

Sep 2011 – July 2015 **Bachelor, School of Computer Science and Technology, HIT**

Grants

2024 National Natural Science Foundation of China

2023 Shanghai Youth Science and Technology YangFan Project

2022 Excellent Doctoral Thesis Award of Harbin Institute of Technology

Publication

First/Corresponding Author

- [1] **Chenjia Bai**, Lingxiao Wang, Jianye Hao, Zhuoran Yang, Bin Zhao, Zhen Wang*, and Xuelong Li*. Pessimistic Value Iteration for Multi-Task Data Sharing in Offline Reinforcement Learning. *Artificial Intelligence (AIJ)*, 2024 ([CCF-A](#), [CAAI-A](#))
- [2] Haoran He, **Chenjia Bai***, Kang Xu, Zhuoran Yang, Weinan Zhang, Dong Wang, Bin Zhao, Xuelong Li. Diffusion Model is an Effective Planner and Data Synthesizer for Multi-Task Reinforcement Learning. *Neural Information Processing Systems (NeurIPS)*, 2023 ([CCF-A](#), [CAAI-A](#), Corresponding Author)
- [3] Kang Xu, **Chenjia Bai***, Xiaoteng Ma, Dong Wang, Bin Zhao, Zhen Wang, Xuelong Li, Wei

- Li. Cross-Domain Policy Adaptation via Value-Guided Data Filtering. *Neural Information Processing Systems (NeurIPS)*, 2023 (CCF-A, CAAI-A, Corresponding Author)
- [4] Rushuai Yang, **Chenjia Bai***, Hongyi Guo, Siyuan Li, Bin Zhao, Zhen Wang, Peng Liu, and Xuelong Li. Behavior Contrastive Learning for Unsupervised Skill Discovery. *International Conference on Machine Learning (ICML)*, 2023 (CCF-A, CAAI-A, Corresponding Author)
- [5] Rui Yang*, **Chenjia Bai***, Xiaoteng Ma, Zhaoran Wang, Chongjie Zhang, Lei Han. RORL: Robust Offline Reinforcement Learning via Conservative Smoothing. *Neural Information Processing Systems (NeurIPS)*, 2022 (Spotlight) (CCF-A, CAAI-A, 共同一作)
- [6] **Chenjia Bai**, Lingxiao Wang, Zhuoran Yang, Zhihong Deng, Animesh Garg, Peng Liu, and Zhaoran Wang. Pessimistic Bootstrapping for Uncertainty-Driven Offline Reinforcement Learning. *International Conference on Learning Representations (ICLR)*, 2022 (Spotlight) (CAAI-A)
- [7] Shuang Qiu, Lingxiao Wang*, **Chenjia Bai***, Zhuoran Yang, and Zhaoran Wang. Contrastive UCB: Provably Efficient Contrastive Self-Supervised Learning in Online Reinforcement Learning. *International Conference on Machine Learning (ICML)*, 2022 (Spotlight) (CCF-A, CAAI-A, Corresponding Author)
- [8] **Chenjia Bai**, Lingxiao Wang, Lei Han, Animesh Garg, Jianye Hao, Peng Liu, and Zhaoran Wang. Dynamic Bottleneck for Robust Self-Supervised Exploration. *Neural Information Processing Systems (NeurIPS)*, 2021 (CCF-A, CAAI-A)
- [9] **Chenjia Bai**, Lingxiao Wang, Lei Han, Jianye Hao, Animesh Garg, Peng Liu, and Zhaoran Wang. Principled Exploration via Optimistic Bootstrapping and Backward Induction. *International Conference on Machine Learning (ICML)*, 2021 (Spotlight) (CCF-A, CAAI-A)
- [10] Jiyuan Shi, **Chenjia Bai***, Haoran He, Lei Han, Dong Wang, Bin Zhao, Mingguo Zhao, Xiu Li, Xuelong Li. Robust Quadrupedal Locomotion via Risk-Averse Policy Learning. *IEEE International Conference on Robotics and Automation (ICRA)*, 2024 (CCF-B, CAAI-A, Corresponding Author)
- [11] **Chenjia Bai**, Lingxiao Wang, Yixin Wang, Rui Zhao, Chenyao Bai and Peng Liu. Addressing Hindsight Bias in Multi-Goal Reinforcement Learning. *IEEE Transactions on Cybernetics (TCYB)*, 2023 (CCF-B, CAAI-A)
- [12] **Chenjia Bai**, Ting Xiao, Zhoufan Zhu, Lingxiao Wang, Fan Zhou, and Peng Liu. Monotonic Quantile Network for Worst-Case Offline Reinforcement Learning. *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2023 (CCF-B, CAAI-A)
- [13] **Chenjia Bai**, Peng Liu, Kaiyu Liu, Lingxiao Wang, Yingnan Zhao, and Lei Han. Variational Dynamic for Self-Supervised Exploration in Deep Reinforcement Learning. *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2023 (CCF-B, CAAI-A)
- [14] Xudong Yu, **Chenjia Bai***, Hongyi Guo, Changhong Wang*, and Zhen Wang. Diverse

- Randomized Value Functions: A Provably Pessimistic Approach for Offline Reinforcement Learning. *Information Sciences*, 2023 (CCF-B、CAAI-B, Corresponding Author)
- [15] Peng Liu, **Chenjia Bai**, et al. Generating Attentive Goals for Prioritized Hindsight Reinforcement Learning. *Knowledge-based Systems*. 2020 (CCF-C、CAAI-B)
- [16] **Chenjia Bai**, Peng Liu, Wei Zhao, et al. Guided Goal Generation for Hindsight Multi-Goal Reinforcement Learning. *Neurocomputing*. 2019, 359: 353-367.

Co-Author Paper

- [17] Zhihong Deng, Zuyue Fu, Lingxiao Wang, Zhuoran Yang, **Chenjia Bai**, Tianyi Zhou, and Jing Jiang. False Correlation Reduction for Offline Reinforcement Learning. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2023 (CCF-A、CAAI-A)
- [18] Jinyi Liu, Zhi Wang, Yan Zheng, Jianye Hao, **Chenjia Bai**, Junjie Ye, Zhen Wang, et al. OVD-Explorer: Optimism should not be the Sole Pursuit of Exploration in Noisy Environments. *AAAI Conference on Artificial Intelligence (AAAI)*, 2024 (CCF-A、CAAI-A)
- [19] Changhong Wang, Xudong Yu, **Chenjia Bai**, Zhen Wang*. Ensemble Successor Representations for Task Generalization in Offline-to-Online Reinforcement Learning. *SCIENCE CHINA Information Sciences (SCIS)*, 2023 (CCF-A、CAAI-A)
- [20] Xudong Yu, **Chenjia Bai**, Changhong Wang, Dengxiu Yu, C. L. Philip Chen, Zhen Wang*. Self-Supervised Imitation for Offline Reinforcement Learning with Hindsight Relabeling. *IEEE Transactions on Systems, Man, and Cybernetics: Systems (TSMC)*. 2022 (CCF-B、CAAI-A)
- [21] Jianye Hao, Tianpei Yang, Hongyao Tang, **Chenjia Bai**, Jinyi Liu, Zhaopeng Meng, Peng Liu, and Zhen Wang. Exploration in Deep Reinforcement Learning: From Single-Agent to Multiagent Domain. *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2022 (CCF-B、CAAI-A)

Under Review Paper

- [22] Xiaoyu Wen, Xudong Yu, Rui Yang, **Chenjia Bai***, Zhen Wang. Towards Robust Offline-to-Online Reinforcement Learning via Uncertainty and Smoothness. *Journal of Artificial Intelligence Research (JAIR)*, 2023 (under review, Corresponding Author)
- [23] Kang Xu, **Chenjia Bai***, Shuang Qiu, Haoran He, Bin Zhao, Zhen Wang, Wei Li, Xuelong Li. On the Value of Myopic Behavior in Policy Reuse. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*. 2023 (under review, Corresponding Author)
- [24] Haoran He, **Chenjia Bai**, Hang Lai, Lingxiao Wang, Weinan Zhang*. Privileged Knowledge Distillation for Sim-to-Real Policy Generalization. *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2024 (under review)
- [25] **Chenjia Bai**, Rushuai Yang, Qiaosheng Zhang, Kang Xu, Yi Chen, Xuelong Li. Constrained Ensemble Exploration for Unsupervised Skill Discovery. *International Conference on Machine*

- Learning (ICML)*, 2024 (under review)
- [26] Xudong Yu, **Chenjia Bai***, Haoran He, Changhong Wang, Xuelong Li. Aligning Conditional Generation via Preference Representations for Multi-Task Offline Reinforcement Learning. *International Conference on Machine Learning (ICML)*, 2024 (under review, Corresponding Author)
- [27] Jiafei Lyu, **Chenjia Bai**, Jing-Wen Yang, Xiu Li, Zongqing Lu. Cross-Domain Policy Adaptation by Capturing Representation Mismatch. *International Conference on Machine Learning (ICML)*, 2024 (under review)
- [28] Xiaoyu Wen, **Chenjia Bai***, Kang Xu, Xudong Yu, Yang Zhang, Xuelong Li, Zhen Wang. Contrastive Representation for Data Filtering in Cross-Domain Offline Reinforcement Learning. *International Conference on Machine Learning (ICML)*, 2024 (under review, Corresponding Author)
- [29] Haoran He, **Chenjia Bai***, Ling Pan, Weinan Zhang, Bin Zhao, Xuelong Li. Large-Scale Actionless Video Pre-Training via Discrete Diffusion for Efficient Policy Learning. *International Conference on Machine Learning (ICML)*, 2024 (under review, Corresponding Author)
- [30] Shixin Yang, Yang Zhang, **Chenjia Bai***, Zhuoran Yang, Xiu, Li, Xuelong Li, Zhen Wang. Reinforced Advantage Feedback for LLM Refinement in Embodied Multi-Agent Collaboration. *International Conference on Machine Learning (ICML)*, 2024 (under review, Corresponding Author)
- [31] Junjie Zhang, **Chenjia Bai***, Haoran He, Zhigang Wang, Bin Zhao, Xiu Li, Xuelong Li. Parameter-Efficient Visual Foundation Model with Sequence Imitation for Embodied Manipulation. *International Conference on Machine Learning (ICML)*, 2024 (under review, 通 Corresponding Author)

Service

- ✚ Senior Program Committee Members (SPC) of AAMAS (2024)
- ✚ Program Committee Members (PC) / Conference Reviewer of NeurIPS (2021 - 2024)
- ✚ Program Committee Members (PC) / Conference Reviewer of ICLR (2021 - 2024)
- ✚ Program Committee Members (PC) / Conference Reviewer of ICML (2022 - 2024)
- ✚ Program Committee Members (PC) / Conference Reviewer of AAAI (2021 - 2024)
- ✚ Journal Reviewer: IEEE Trans. Cybernetics, IEEE Trans. TNNLS, IEEE Trans. TETCI, IEEE Trans. Intelligent Vehicles