

MINGHUAN LIU

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EDUCATION

Shanghai Jiaotong University (SJTU)

Sep. 2019 - Now

Ph.D. in Computer Science and Technology

Research Interest: Imitation Learning, Reinforcement Learning, Multi-Agent Systems

- Apex Data & Knowledge Management Lab
- Advisor: Weinan Zhang

Southwest Jiaotong University (SWJTU)

Sep. 2015 - July. 2019

B.S. in Computer Science and Technology

- Overall GPA: 3.84/4.0 Ranking: 1/98
- Key Lab of Cloud Computing and Intelligent Technology
- Advisor: Tianrui Li

PUBLICATIONS / PREPRINTS

Energy-Based Imitation Learning.

Minghuan Liu, Tairan He, Minkai Xu, Weinan Zhang.

International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2021. **oral AAMAS 2021.**

- We propose EBIL, a two-step solution for imitation learning: first estimate the energy of expert's occupancy measure, and then take the energy to construct a surrogate reward function as a guidance for the agent to learn the desired policy.

Multi-Agent Interactions Modeling with Correlated Policies.

Minghuan Liu, Ming Zhou, Weinan Zhang, Yuzheng Zhuang, Jun Wang, Wulong Liu, Yong Yu.

The 8th International Conference on Learning Representations. **ICLR 2020.**

- We propose CoDAIL, which cast the multi-agent interactions modeling problem into a multi-agent imitation learning framework with explicit modeling of correlated policies by approximating opponents' policies.

Generative adversarial exploration for reinforcement learning.

Weijun Hong, Menghui Zhu, Minghuan Liu, Weinan Zhang, Ming Zhou, Yong Yu, Peng Sun.

Proceedings of the First International Conference on Distributed Artificial Intelligence. **DAI 2020.**

- We propose GAE, a method to encourage exploration in RL via introducing an intrinsic reward output from a generative adversarial network, which can be seen as the confidence to judge a novel state.

Automatic Proofreading in Chinese: Detect and Correct Spelling Errors in Character-level with Deep Neural Networks.

Qiufeng Wang, Minghuan Liu, Weijia Zhang, Yuhang Guo and Tianrui Li.

The 8th CCF International Conference on Natural Language Processing and Chinese Computing. **NLPCC 2019.**

- We propose an LSTM based framework to solve the automatic proofreading in Chinese.

AWARDS & HONORS

TOP 6, Finalist of Sports Analytics Challenge (sponsored by PSG) *2019*

TOP 10, SCADA Data Missing Repair Competition *2019*

TOP 3, AI Challenger 2018 in Weather Forecasting *2018*

National First Prize, China Undergraduate Mathematical Contest in Modeling *2017*

Meritorious Winner, Mathematical Contest In Modeling	<i>2017</i>
China National Scholarship × 2 (1%)	<i>201682017</i>
Tang Lixin Scholarship (1‰)	<i>2017</i>
IBM Scholarship (1‰)	<i>2017</i>
Special Grade Comprehensive Scholarship × 4 (1%)	<i>2016 - 2017</i>

SKILLS

Machine Learning: Tensorflow, Scikit-Learn, lightGBM

Programming Languages: Python, MATLAB, C / C++, Java, LATEX

Standard Tests: TOFEL(88 for now), CET-6(574), CET4(616)

Hobbies and Interests: Swimming, Soccer