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Linghui (Reinhold) Meng

PhD Student

GitHub: ReinholdM
Personal Homepage

Research Interests

Multi-agent Reinforcement Learning, MARL (Pre-training) on video game, Automatic Speech Recognition (ASR), Probabilistic graphical model, Generative Models, and Contrastive Learning

Internship

2021, **Huawei Noah'S Ark Lab**, Research Internship (mentor: Jun Wang)

2020, **MSRA**, Research Internship (mentor: Xu Tan)

2018, **CASIA**, Research Internship (mentor: Shiyu Zhou)

Education

2019 - Now, **Ph.D. Student**, Patern Recognition and Intelligent Systems, Institute of Automation, Chinese Academy of Sciences. Supervised by Prof. Bo Xu (https://people.ucas.ac.cn/ xubo).

2015 - 2019, **B.E.**, Rail Transit Signal and Control, Beijing Jiao Tong University.

Awards

2021, A member of the first experimental class of direct doctoral students in CASIA.

2019, Excellent Student (University, top 2%)

2018, National Undergraduate Electronics Design Contest (National, First Prize)

2018, National Encouragement Scholarship

Professional Experience

End-to-end ASR Research Intership (MSRA) 2018 - 2020

Speech augmentation for low resource speech recognition, supervised by Xu Tan (Homepage).

MARL on Football Research Intership (Huawei Cloud) 2021

Integrating reward shaping and population-based training for MARL on Football Game.

Asynchronous RL Ph.D. Student (CASIA) 2021

Enforcing the gradient messaging between multiple devices for efficient reinforcement learning on the Wargame.

Safety RL Research Intership (Huawei London) 2021

Working on intervent the agent avoiding taking the dangerous actions and submitted a paper.

MARL baselines Ph.D. Student (CASIA) 2021

Implementing the discrete version of optimal baselines for multi-agent policy gradient methods.

Publications

Learning in Bi-level Markov Games, **Linghui Meng**, Jingqing Ruan, Dengpeng Xing, Bo Xu
IJCNN 2022

Promoting Coordination Through Electing First-move Agent in Multi-Agent Reinforcement Learning, Jingqing Ruan*, **Linghui Meng***, Xuantang Xiong, Dengpeng Xing, Bo Xu
ICAPS 2022

GCS: Graph-based Coordination Strategy for Multi-Agent Reinforcement Learning, Jingqing Ruan, Yali Du, Xuantang Xiong, Dengpeng Xing, Xiyun Li, **Linghui Meng**, Haifeng Zhang, Jun Wang, Bo Xu
AAMAS 2022

Offline Pre-trained Multi-Agent Decision Transformer: One Big Sequence Model Conquers All StarCraftII Tasks, **Linghui Meng**, Muning Wen, Yaodong Yang, Chenyang Le, Xiyun Li, Weinan Zhang, Ying Wen, Haifeng Zhang, Jun Wang, Bo Xu
Submitted to ICML 2022

Settling the Variance of Multi-Agent Policy Gradients, Jakub Grudzien Kuba, Muning Wen, **Linghui Meng**, Shangding Gu, Haifeng Zhang, David Henry Mguni, Jun Wang, Yaodong Yang
NeurIPS 2021

MixSpeech: Data Augmentation for Low-resource Automatic Speech Recognition, Linghui Meng, Jin Xu, Xu Tan, Jindong Wang, Tao Qin, Bo Xu
ICASSP 2021

Two papers submitted to
NeurIPS 2022