Xiao Ma

National University of Singapore
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EDUCATION

National University of Singapore (NUS), Singapore   2017 - Present
Doctor of Philosophy in COMPUTER SCIENCE
Supervisor: Prof. David Hsu
Shanghai Jiao Tong University (SJTU), Shanghai   2013 - 2017
Bachelor of Science in COMPUTER SCIENCE

RESEARCH INTERESTS

My research focuses on uncertainty modeling, reinforcement learning, representation learning and their applications to building intelligent robots. I aim to build general, self-adaptive, and robust models of the world to assist decision making.

PREPRINTS

Xiao Ma, Siwei Chen, David Hsu, Wee Sun Lee. "Contrastive Variational Model-Based Reinforcement Learning for Complex Observations", *arXiv preprint arXiv:2008.02430*.

Jiawei Ren, Cunjun Yu, Shunan Sheng, **Xiao Ma**, Haiyu Zhao, Shuai Yi, Hongsheng Li. "Balanced Meta-Softmax for Long-Tailed Visual Recognition", *arXiv preprint arXiv:2007.10740*.

PUBLICATIONS

Siwei Chen, **Xiao Ma**, David Hsu. "DinerDash Gym: A Benchmark for Policy Learning in High-Dimensional Action Space", *In IL workshop, Robotics: Science and Systems (RSS), 2020*

Cunjun Yu*, **Xiao Ma***, Jiawei Ren, Haiyu Zhao, Shuai Yi. "Spatio-Temporal Graph Transformer Networks for Pedestrian Trajectory Prediction", *European Conference on Computer Vision (ECCV), 2020* (*equal contribution)

Zuowu Zheng, Xiaofeng Gao, **Xiao Ma**, Guihai Chen. "Predicting Hot Events in the Early Period through Bayesian Model for Social Networks", *IEEE Transactions on Knowledge and Data Engineering (TKDE), 2020*

Xiao Ma, Peter Karkus, David Hsu, Wee Sun Lee, Nan Ye. "Discriminative Particle Filter Reinforcement Learning for Complex Partial Observations", *International Conference on Learning Representations (ICLR), 2020*

Xiao Ma*, Peter Karkus*, David Hsu, Wee Sun Lee. "Particle Filter Recurrent Neural Networks", *AAAI Conference on Artificial Intelligence (AAAI), 2020* (**Spotlight**, *equal contribution)

Peter Karkus, **Xiao Ma**, David Hsu, Leslie Pack Kaelbling, Wee Sun Lee, Tomas Lozano-Perez. "Differentiable Algorithm Networks for Composable Robot Learning", *Robotics: Science and Systems (RSS), 2019* (**Best Student/System Paper Finalist**)

Xiao Ma, Peter Karkus, David Hsu, Wee Sun Lee "PF-LSTM: Belief State Particle Filter for LSTM", *In RLPO Workshop, Advances in Neural Information Processing Systems (NeurIPS), 2018*

Xiao Ma, Xiaofeng Gao, Guihai Chen. "BEEP: a Bayesian perspective Early state Event Prediction model for online social networks", *IEEE International Conference on Data Mining (ICDM), 2017*

Xiao Ma, Zhenzhe Zheng, Fan Wu and Guihai Chen. "Trust-Based Time Series Data Model for Mobile Crowdsensing", *IEEE International Conference on Communications (ICC), 2017*

WORK EXPERIENCE

Software Engineer Intern at **Intel** Asia Pacific R & D Center   May 2017 - Dec. 2017

Research Intern at **SenseTime Research** Singapore   Oct. 2019 - present

AWARDS

Academic Excellence Scholarship   2014
Honorable Mention of Mathematical Contest In Modeling   2015
Academic Excellence Scholarship   2016
Honorable Mention of Mathematical Contest In Modeling   2016
Excellent Project of the *National Undergraduate Training Programs for Innovation and Entrepreneurship*   2016
NUS Research Scholarship   2017
Second Prize in iNTUition Hachathon   2017