

# 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: <a href="#">Prof. David Hsu</a>	
Shanghai Jiao Tong University (SJTU), Shanghai	2013 - 2017
Bachelor of Science in COMPUTER SCIENCE	

## RESEARCH INTERESTS

My research focuses on uncertainty modeling, reinforcement learning, graph neural networks and their applications to robotics. I aim to build compact and robust models of the world to decision making in unstructured environments.

## PREPRINTS

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

## PUBLICATIONS

Jiawei Ren, Cunjun Yu, Shunan Sheng, Xiao Ma, Haiyu Zhao, Shuai Yi, Hongsheng Li. "Balanced Meta-Softmax for Long-Tailed Visual Recognition", *Advances in Neural Information Processing Systems (NeurIPS)*, 2020

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 - Sept. 2020

## 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 Hackathon	2017
Robotics: Science and Systems Best System Paper Nomination	2019
Robotics: Science and Systems Best Student Paper Nomination	2019
NUS School of Computing Research Achievement Award	2020