

Thanard Kurutach

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RESEARCH INTERESTS

I am interested in using artificial intelligence to help humans live better, and make better decisions. My current research goal is to develop algorithms that enable agents to efficiently solve complex decision-making problems using learning and planning.

EDUCATION

University of California, Berkeley , Berkeley, CA	2016 – present
Candidate for Ph.D. in Computer Science	4.0/4.0
Research Advisors: Pieter Abbeel, Stuart Russell	
Massachusetts Institute of Technology , Cambridge, MA	2012 – 2016
Candidate for B.S. in Electrical Engineering and Computer Science	4.9/5.0
Candidate for B.S. in Mathematics	5.0/5.0

AWARDS AND HONOURS

UC Berkeley EECS Department Fellowship	2016
Provost’s Graduate Excellence Fellowship (<i>decline</i>)	2016 – 2020
Lincoln Laboratory Undergraduate Research and Innovation Scholar	2015
Royal Thai Scholar	2011 – 2016
Round 2 Qualifier , Google Code Jam	2013
Gold Medal , 52nd International Mathematical Olympiad (IMO)	2011
Gold Medal , Asian Pacific Mathematics Olympiad (APMO)	2011
Silver Medal , 51st International Mathematical Olympiad (IMO)	2010
Silver Medal , 50th International Mathematical Olympiad (IMO)	2009

PUBLICATIONS

Kara Liu*, **Thanard Kurutach***, Pieter Abbeel, Aviv Tamar. “Hallucinative Topological Memory for Zero-Shot Visual Planning.” *Proceedings of the International Conference on Machine Learning (ICML)*, 2020.

Yilin Wu*, Wilson Yan*, **Thanard Kurutach**, Lerrel Pinto, Pieter Abbeel. “Learning to Manipulate Deformable Objects without Demonstrations.” *Proceedings of the Robotics: Science and Systems (RSS)*, 2020.

Angelina Wang, **Thanard Kurutach**, Kara Liu, Pieter Abbeel, Aviv Tamar. “Learning Robotic Manipulation through Visual Planning and Acting.” *Proceedings of the Robotics: Science and Systems (RSS)*, 2019.

Thanard Kurutach*, Aviv Tamar*, Ge Yang, Stuart Russell, Pieter Abbeel. “Learning Plannable Representation with Causal InfoGAN.” *Proceedings of Neural Information Processing Systems (NIPS)*, 2018.

Thanard Kurutach, Ignasi Clavera, Yan Duan, Aviv Tamar, Pieter Abbeel. “Model Ensemble Trust Region Policy Optimization.” *Proceedings of the International Conference on Learning Representations (ICLR)*, 2018.

Lawson Wong, **Thanard Kurutach**, Leslie Kaelbling, Tomás Lozano-Peréz. “Object-based World Modeling in Semi-Static Environments with Dependent Dirichlet-Process Mixtures.” *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), 2016*.

ORAL PRESENTATIONS

Learning Representation for Planning and Acting. *BayLearn, Facebook*. October 2018.

Learning Plannable Representation with Causal InfoGAN. *ICML/IJCAI/AAMAS Workshop on Planning and Learning*. July 2018.

RESEARCH AND INDUSTRY EXPERIENCE

Berkeley Artificial Intelligence Research (BAIR) , Research Assistant	2016 – present
Google, Inc. , Brain Team, Student Researcher	2019 - 2020
Google, Inc. , Speech Team, Research Intern	2016
EnergySage, Inc. , Data Scientist Intern	2016
Learning and Intelligent Systems Group , with Kaelbling, Lozano-Peréz	2014 – 2016
MIT CSAIL Machine Learning Group , with Stefanie Jegelka	2015 – 2015
National ICT Australia , Research Intern	2014
Harvard Microrobotics Laboratory , with Robert J. Wood	2013
Nanostructures and Computation Group , with Steven G. Johnson	2012 – 2013

TEACHING EXPERIENCE

Invited Lectures

Lecture AI and Neural Network Design Spring 2019
in Leading Trends in Humanities, the Sciences and Technology program, UC Berkeley Extension.

Teaching Assistant

Berkeley CS188: Introduction to Artificial Intelligence	Fall 2018
MIT 6.036: Introduction to Machine Learning	Spring 2016
MIT 6.008: Introduction to Inference	Fall 2015
MIT 18.310: Principles of Applied Mathematics	Fall 2014
MIT 6.001: Introduction to EECS	Spring 2013

MENTORING AND ADVISING

Undergraduate students:

Julia Peng, UC Berkeley
Fenglu Hong, UC Berkeley
Yilin Wu, Shanghai Jiao Tong University
Wilson Yan, UC Berkeley
Angelina Wang, UC Berkeley
Kara Liu, UC Berkeley
Christine Tung, UC Berkeley

Visiting Scholars:

Ge Yang, PhD student, University of Chicago
Misha Laskin, PhD graduate, University of Chicago
Yuto Fujii, Engineer, Komatsu Ltd

PROFESSIONAL SERVICES

Paper Reviewing:

IEEE International Conference on Robotics and Automation (ICRA) 2019, 2020

International Conference on Machine Learning (ICML) 2019

Neural Information Processing Systems (NeurIPS) 2019

American Association for Artificial Intelligence (AAAI) 2020