Thanard Kurutach

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Research Interests

In general, 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 robots 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 Adivsors: 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 *(decline)* — 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

Angelina Wang, **Thanard Kurutach**, Aviv Tamar, Pieter Abbeel. "Learning Robotic Manipulation through Visual Planning and Acting." *In submission to the International Conference on Robotics and Automation (ICRA), 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.*

Thanard Kurutach, Xinhua Zhang, Nicholas Engerer, Justin Domke. "Probabilistic Graphical Models for Distributed Solar Prediction with Missing Measurements." *National ICT Australia, Canberra, NSW, 2015.*

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., 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

Department of EECS, UC Berkeley, Berkeley, CA
Graduate Student Instructor
- *CS188: Introduction to Artificial Intelligence, Fall 2018.*

Department of EECS, MIT, Cambridge, MA
Teaching Assistant
- *6.036: Introduction to Machine Learning, Spring 2016*
- *6.008: Introduction to Inference, Fall 2015*

Lab Assistant
- *6.001: Introduction to EECS, Spring 2013*

Department of Mathematics, MIT, Cambridge, MA
Writing Coach
- *18.310: Principles of Applied Mathematics, Fall 2014*

Mentoring and Advising

Undergraduate research:
Angelina Wang
Kara Liu
Christine Tung

Computational Skills

Python, PyTorch, Tensorflow, Matlab, Java, C/C++, LaTeX, HTML5/CSS, Javascript, jQuery, etc.