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 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**, 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., 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

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

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 students:
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

Computational Skills

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