Kurtland Chua

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Education

B.S. Electrical Engineering and Computer Sciences
University of California, Berkeley
2015-2019

GPA: 4.00/4.00

Relevant Coursework (* indicates graduate coursework):

Core:
- High-Dimensional Statistics*
- Deep Reinforcement Learning*
- Theoretical Statistics*
- Machine Learning
- Probability/Random Processes
- Optimization

Mathematics:
- Functional Analysis*
- Differentiable Manifolds*
- Topology and Analysis*
- Algebraic Topology
- Honors Real Analysis
- Honors Complex Analysis

Research

Undergraduate Researcher
Berkeley Artificial Intelligence Research Laboratory
09/2016 - Present

Currently supervised by Professor Sergey Levine, Roberto Calandra, and Rowan McAllister. My work aims to develop model-based methods that can attain competitive asymptotic performance while retaining data efficiency.

- Developed the PETS algorithm, a state-of-the-art deep model-based RL algorithm which models both environment stochasticity and model uncertainty to combat compounding error issues during long-horizon planning.

Publications

Kurtland Chua, Rowan McAllister, Roberto Calandra, Sergey Levine. (2018) "Unsupervised Exploration with Deep Model-Based Reinforcement Learning."
NeurIPS 2018 Workshop on Deep Reinforcement Learning

Kurtland Chua, Roberto Calandra, Rowan McAllister, Sergey Levine. (2018) "Deep Reinforcement Learning in a Handful of Trials Using Probabilistic Dynamics Models."
Neural Information Processing Systems (NeurIPS) 2018 (Spotlight presentation, ~4% of accepted papers).
ICML 2018 Workshop on Planning and Learning (Oral Presentation)
ICML 2018 Workshop on Prediction and Generative Modeling in Reinforcement Learning
IROS 2018 Workshop on Machine Learning in Robot Motion Planning (Oral Presentation)
NIPS 2017 Workshop on Acting and Interacting in the Real World: Challenges in Robot Learning

Talks

"Deep Reinforcement Learning in a Handful of Trials Using Probabilistic Dynamics Models."
Bay Area Machine Learning Symposium (Baylearn). October 2018.

Teaching

Undergraduate Student Instructor

University of California, Berkeley

08/2018 - Present

Served as a student instructor for EECS 126, an upper-division course on probability and random processes with over 200 enrolled students.

- Prepared for and led a discussion section once a week for roughly fifteen students.
- Interacted one-on-one with students in weekly office hours to provide additional support.

Honors

National Science Foundation - Graduate Research Fellowship *April 2019*

UC Berkeley EECS Honors Program *January 2019*

- Pursuing a concentration in Mathematics.

NVIDIA Pioneer Award *December 2018*

- Awarded for *Deep Reinforcement Learning in a Handful of Trials using Probabilistic Dynamics Models* at NeurIPS 2018 (one of eight awards).

Phi Beta Kappa (Honors Society) *May 2018*

- One of twenty-one invited third-year Berkeley students in 2018.

Quantedge Award for Academic Excellence *March 2018*

- Awarded to Berkeley students of senior standing with a 4.0 GPA.

College of Engineering Dean's Honors List *December 2015 - Present*

- Received for six semesters.

Edward Kraft Award for Freshmen *December 2015*

- Awarded to first-year students with a 4.0 GPA at the end of their first semester.