KARA LIU

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EDUCATION

University of California, Berkeley   2016 - Present
B.*A.* in Computer Science and Cognitive Science   GPA: 3.97/4.00
Honors: UC Berkeley EECS Honors Degree Program, UC Berkeley Leadership Award (2016, 2018)

EXPERIENCE

Berkeley Artificial Intelligence Research Lab: *Undergraduate Researcher*   2018 – Present
· Advised by Pieter Abbeel and Aviv Tamar.
· My research explores the intersection of machine learning methods with robotics, specifically on long-horizon visual planning and representation learning.

Advanced Science Technology and Research Institute: *Intern*   2018
· As a member of the Security Team, I investigated generative models and their potential impact in the security sector.

PUBLICATIONS

Learning Robotic Manipulation through Visual Planning and Acting
A. Wang, T. Kurutach, **K. Liu***, A. Tamar, P. Abbeel*
· In this work, we proposed a self-supervised, data-driven approach to planning robotic manipulation on deformable objects by using a modified Causal InfoGAN model to generate visual plans and an inverse control model to execute actions on a PR2.
· Accepted into Deep RL Workshop at NeurIPS 2018; RSS 2019

Hallucinative Topological Memory for Zero-Shot Visual Planning
K. Liu*, T. Kurutach, A. Tamar, P. Abbeel*
· This algorithm presented a model-based algorithm for long-horizon visual planning by employing a conditional VAE to visualize potential states, a classifier based on contrastive loss to search for feasible trajectories, and a low-level controller to execute the plan.
· Accepted into Deep RL Workshop at NeurIPs 2019; Under review for ICLR 2020

TEACHING & LEADERSHIP

University of California, Berkeley: **TA, CS 189: Machine Learning**   Fall 2019
·Hold office hours, run discussions, and design course content for 590 students.

Medical Technologies at Berkeley: **ML Instructor, Project Lead**   2019
·Provide coding services and design apps for health-based organizations.
·Ran a crash course on ML and designed homework assignments.

Girl Up: **Vice President**   2016-2018
·Raised funds and awareness for women's education in developing countries.
·Spear-headed our fundraising week which raised over $1500.

Alpha Chi Omega: **Vice President of Facility Operations**   2017-2018
· Served on the thirteen-person executive board for over 150 women.
· Managed repairs, finances, staff-relations, and policies for a building of 60+ people.

TECHNICAL SKILLS

Computer Languages: Python, C++, Java, SQL, HTML
Software & Tools: PyTorch, TensorFlow, Git, LaTeX, Vim

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