

Alex X. Lee

alexlee-gk.github.io

Education

Ph.D., Computer Science , UC Berkeley Advisers: Pieter Abbeel, Sergey Levine	2013–2019
B.S., Electrical Engineering and Computer Science , UC Berkeley GPA: 3.963/4.0	2009–2013

Research and Industry Experience

DeepMind , Research Scientist	2019–Present
DeepMind , Ph.D. Intern with Konstantinos Bousmalis	2018
Berkeley Artificial Intelligence Research (BAIR) , Researcher	2013–2019
Oracle, Corp. , Software Engineering Intern, JavaFX Samples Team	2013
Wireless Sensor Networks Lab , Undergraduate Researcher	2012
Robot Learning Lab , Undergraduate Researcher	2011–2013
Zettl Research Group , Undergraduate Researcher	2010

Pre-Prints

Alex X. Lee, Anusha Nagabandi, Pieter Abbeel, Sergey Levine. Stochastic Latent Actor-Critic: Deep Reinforcement Learning with a Latent Variable Model. arXiv preprint arXiv:1907.00953, 2019.

Frederik Ebert, Chelsea Finn, Sudeep Dasari, Annie Xie, **Alex X. Lee**, Sergey Levine. Visual Foresight: Model-Based Deep Reinforcement Learning for Vision-Based Robotic Control. arXiv preprint arXiv:1812.00568, 2018.

Alex X. Lee, Richard Zhang, Frederik Ebert, Pieter Abbeel, Chelsea Finn, Sergey Levine. Stochastic Adversarial Video Prediction. arXiv preprint arXiv:1804.01523, 2018.

Conference and Journal Publications

- [13] Frederik Ebert, Sudeep Dasari, **Alex X. Lee**, Sergey Levine, and Chelsea Finn. Robustness via Retrying: Closed-Loop Robotic Manipulation with Self-Supervised Learning. In: *Proceedings of the 2nd Annual Conference on Robot Learning (CoRL)*. 2018.
- [12] Frederik Ebert, Chelsea Finn, **Alex X. Lee**, and Sergey Levine. Self-Supervised Visual Planning with Temporal Skip Connections. In: *Proceedings of the 1st Annual Conference on Robot Learning (CoRL)*. 2017.
- [11] **Alex X. Lee**, Sergey Levine, and Pieter Abbeel. Learning Visual Servoing with Deep Features and Fitted Q-Iteration. In: *Proceedings of the International Conference on Learning Representations (ICLR)*. 2017.

- [10] **Alex X. Lee**, Abhishek Gupta, Henry Lu, Sergey Levine, and Pieter Abbeel. Learning from Multiple Demonstrations using Trajectory-Aware Non-Rigid Registration with Applications to Deformable Object Manipulation. In: *Proceedings of the 28th IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2015.
- [9] Dylan Hadfield-Menell, **Alex X. Lee**, Chelsea Finn, Eric Tzeng, Sandy Huang, and Pieter Abbeel. Beyond Lowest-Warping Cost Action Selection in Trajectory Transfer. In: *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*. 2015.
- [8] **Alex X. Lee**, Henry Lu, Abhishek Gupta, Sergey Levine, and Pieter Abbeel. Learning Force-Based Manipulation of Deformable Objects from Multiple Demonstrations. In: *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*. 2015.
- [7] **Alex X. Lee**, Max A. Goldstein, Shane T. Barratt, and Pieter Abbeel. A Non-Rigid Point and Normal Registration Algorithm with Applications to Learning from Demonstrations. In: *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*. 2015.
- [6] **Alex X. Lee**, Sandy H. Huang, Dylan Hadfield-Menell, Eric Tzeng, and Pieter Abbeel. Unifying Scene Registration and Trajectory Optimization for Learning from Demonstrations with Application to Manipulation of Deformable Objects. In: *Proceedings of the 27th IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2014.
- [5] John Schulman, Yan Duan, Jonathan Ho, **Alex X. Lee**, Ibrahim Awwal, Henry Bradlow, Jia Pan, Sachin Patil, Ken Goldberg, and Pieter Abbeel. Motion Planning with Sequential Convex Optimization and Convex Collision Checking. In: *International Journal of Robotics Research (IJRR)*. 2014.
- [4] Ben Kehoe, Gregory Kahn, Jeffrey Mahler, Jonathan Kim, **Alex X. Lee**, Anna Lee, Keisuke Nakagawa, Sachin Patil, W. Douglas Boyd, Pieter Abbeel, and Ken Goldberg. Autonomous Multilateral Debridement with the Raven Surgical Robot. In: *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*. 2014.
- [3] **Alex X. Lee**, Yan Duan, Sachin Patil, John Schulman, Zoe McCarthy, Jur van den Berg, Ken Goldberg, and Pieter Abbeel. Sigma Hulls for Gaussian Belief Space Planning for Imprecise Articulated Robots amid Obstacles. In: *Proceedings of the 26th IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2013.
- [2] John D. Schulman, Jonathan Ho, **Alex X. Lee**, Ibrahim Awwal, Henry Bradlow, and Pieter Abbeel. Finding Locally Optimal, Collision-Free Trajectories with Sequential Convex Optimization. In: *Proceedings of Robotics: Science and Systems (RSS)*. 2013.
- [1] John Schulman, **Alex X. Lee**, Jonathan Ho, and Pieter Abbeel. Tracking Deformable Objects with Point Clouds. In: *Proceedings of the International Conference on Robotics and Automation (ICRA)*. 2013. **(best vision paper award)**.

Workshop Papers

Frederik D. Ebert, Chelsea Finn, **Alex X. Lee**, Sergey Levine. Self-Supervised Visual Planning with Temporal Skip Connections. *NIPS Workshop on Acting and Interacting in the Real World: Challenges in Robot Learning*. 2017.

Alex X. Lee, Sergey Levine, Pieter Abbeel. Learning Visual Servoing with Deep Features and Trust Region Fitted Q-Iteration. *NIPS Workshop on Deep Learning for Action and Interaction* and *NIPS Deep Reinforcement Learning Workshop*. 2016.

Dylan Hadfield-Menell, **Alex X. Lee**, Sandy Huang, Eric Tzeng, and Pieter Abbeel. Learning to Select Expert Demonstrations for Deformable Object Manipulation. *RSS Workshop: Information-based Grasp and Manipulation Planning*. 2014.

Alex X. Lee, Sachin Patil, John Schulman, Zoe McCarthy, Jur van den Berg, Ken Goldberg, Pieter Abbeel. Gaussian Belief Space Planning for Imprecise Articulated Robots. *RSS Workshop on Manipulation with Uncertain Models*. 2013.

Teaching Experience

Introduction to Artificial Intelligence (CS188), UC Berkeley **Spring 2015**
TA for Prof. Pieter Abbeel and Dan Klein. Held problem solving sections. Project tester.

Introduction to Artificial Intelligence (CS188), UC Berkeley **Spring 2016**
TA for Prof. Pieter Abbeel and Anca Dragan. Lead developer of new deep learning project. Held problem solving sections.

Mentoring

Undergraduate research

Max Goldstein (undergraduate student at Princeton University)

Shane Barratt (MS/PhD student at Stanford University)

Abhishek Gupta (PhD student at UC Berkeley)

Awards and Honors

National Science Foundation Graduate Research Fellowship **2013–2018**

Jim and Donna Gray Endowment in Computer Science **2011**

Merit-based and need-based scholarship given to 7 students in the CS department.

Member of Ecuador Team, 48th International Mathematical Olympiad, Vietnam **2008**

Member of Ecuador Team, 47th International Mathematical Olympiad, Spain **2007**

Bronze Medal, XVIII South American Mathematical Olympiad, Uruguay **2007**

Professional Activities

Paper reviewing

Conference on Robot Learning (CoRL) 2017

IEEE International Conference on Robotics and Automation (ICRA) 2017, 2018

IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2014, 2015, 2016

Robotics Learning Lab Outreach, 2012–2013

Berkeley Engineers and Mentors (BEAM), Mentor, 2010

Affiliations

IEEE, Member **2013–Present**

Eta Kappa Nu, Member, Electrical and Computer Engineering Honor Society **2013–Present**