

Chelsea B. Finn

750 Sutardja Dai Hall
Berkeley CA 94720

cbfinn@eecs.berkeley.edu

<https://people.eecs.berkeley.edu/~cbfinn>

Education

University of California, Berkeley, Berkeley CA 2014 – present
PhD, Department of Electrical Engineering and Computer Science
Advisers: Pieter Abbeel, Sergey Levine

Massachusetts Institute of Technology, Cambridge MA 2010 – 2014
Bachelor of Science, Electrical Engineering and Computer Science *GPA: 4.97/5.0*

Research and Industry Experience

Berkeley Artificial Intelligence Research (BAIR) Research Assistant 2014 – present
Research in machine learning for robotic perception and control

Google, Inc., Brain Team, Research Intern 2016
Research on large-scale, self-supervised robotic learning

Counsyl, Inc., Automation Engineering Intern 2014
Computational biology and robotics for automated genomics

MIT Robotics, Vision, and Sensor Networks Group, with Seth Teller 2013 – 2014
Research in computer vision and robotics for assistive technology

Google, Inc., Software Engineering Intern 2013
Video processing research and development for YouTube and Google Play Movies

MIT Earth Signals and Systems Group, with Sai Ravela 2012 – 2013
Computer vision research for animal biometrics and conservation

Google, Inc., Engineering Practicum Intern 2012
Software development for the Google Translator Toolkit

MIT Media Lab Human Dynamics Group, with Yves-Alexandre de Montjoye 2011
Research in node arrival processes in networks of people

Sandia National Labs, Intern 2010
Research and development in computational biology

Teaching Experience

Guest Lecturer, Berkeley CS 294-112: Deep Reinforcement Learning Fall 2017
Lecture on advanced model-based reinforcement learning

Guest Lecturer, Deep Reinforcement Learning Bootcamp Fall 2017
Lectures on model-based reinforcement learning and inverse reinforcement learning

Guest Lecturer, Stanford CS234: Reinforcement Learning Spring 2017
Lecture on soft optimality and inverse reinforcement learning

Guest Lecturer, Berkeley CS 280: Computer Vision Spring 2017
Lecture on vision for robotic manipulation

Co-Instructor , Berkeley CS 294-112: Deep Reinforcement Learning Created and gave 5 lectures, design new course assignments	Spring 2017
Guest Lecturer , Berkeley CS 280: Computer Vision Lecture on visuomotor learning methods	Spring 2016
Guest Lecturer , Berkeley CS 294: Deep Reinforcement Learning Lecture on guided policy search	Fall 2015
Teaching Assistant , Berkeley CS 188: Introduction to Artificial Intelligence Teach weekly problem solving sections covering AI topics, head exam composer	Spring 2015
Guest Lecturer , Berkeley CS 188: Introduction to Artificial Intelligence Lectures on Hidden Markov Models (HMMs), particle filtering, and perceptrons	Spring 2015
Teaching Assistant , MIT 6.008: Introduction to Inference Teach recitation sections on inference algorithms and graphical models	Spring 2014
Course Lab Assistant , MIT 6.141: Robotics: Science and Systems I Prepared lab assignments, answered questions, and evaluated students	Spring 2013
Course Lab Assistant , MIT 6.02: Digital Communication Systems Answered questions and helped students debug solutions	Spring 2012

Journal and Conference Publications

Chelsea Finn, Pieter Abbeel, Sergey Levine. **Model-Agnostic Meta-Learning for Fast Adaptation of Deep Networks**. *International Conference on Machine Learning (ICML)*. 2017.

Chelsea Finn, Tianhe Yu, Justin Fu, Pieter Abbeel, Sergey Levine. **Generalizing Skills with Semi-Supervised Reinforcement Learning**. *International Conference on Learning Representations (ICLR)*. 2017.

Chelsea Finn, Sergey Levine. **Deep Visual Foresight for Planning Robot Motion**. *International Conference on Robotics and Automation (ICRA)*. 2017.

William Montgomery*, Anurag Ajay*, Chelsea Finn, Pieter Abbeel, Sergey Levine. **Reset-Free Guided Policy Search: Efficient Deep Reinforcement Learning with Stochastic Initial States**. *International Conference on Robotics and Automation (ICRA)*. 2017.

Chelsea Finn, Ian Goodfellow, Sergey Levine. **Unsupervised Learning for Physical Interaction through Video Prediction**. *Neural Information Processing Systems (NIPS)*. 2016.

Eric Tzeng, Coline Devin, Judy Hoffman, Chelsea Finn, Pieter Abbeel, Sergey Levine, Kate Saenko and Trevor Darrell. **Adapting Deep Visuomotor Representations with Weak Pairwise Constraints**. *Workshop on the Algorithmic Foundations of Robotics (WAFR)*. 2016.

Chelsea Finn, Sergey Levine, Pieter Abbeel. **Guided Cost Learning: Deep Inverse Optimal Control via Policy Optimization**. *International Conference on Machine Learning (ICML)*. 2016.

Chelsea Finn, Xin Yu Tan, Yan Duan, Trevor Darrell, Sergey Levine, Pieter Abbeel. **Deep Spatial Autoencoders for Visuomotor Learning**. *International Conference on Robotics and Automation (ICRA)*. 2016.

Marvin Zhang, Zoe McCarthy, Chelsea Finn, Sergey Levine, Pieter Abbeel. **Learning Deep Neural Network Policies with Continuous Memory States**. *International Conference on Robotics and Automation (ICRA)*. 2016.

Sergey Levine*, Chelsea Finn*, Trevor Darrell, Pieter Abbeel. **End-to-End Training of Deep Visuomotor Policies**. *Journal of Machine Learning (JMLR)*. 2016.

Hsueh-Cheng Wang, Chelsea Finn, Liam Paull, Michael Kaess, Ruth Rosenholtz, Seth Teller, John Leonard. **Bridging text spotting and SLAM with junction features**. *International Conference on Intelligent Robots and Systems (IROS)*. 2015.

Dylan Hadfield-Menell, Alex Xavier Lee, Chelsea Finn, Eric Tzeng, Sandy Huang, Pieter Abbeel. **Beyond Lowest-Warping Cost Action Selection in Trajectory Transfer**. *International Conference on Robotics and Automation (ICRA)*. 2015.

James Duyck, Chelsea Finn, Andy Hutcheon, Pablo Vera, Joaquin Salas, Sai Ravela. **Sloop: A pattern retrieval engine for individual animal identification**. *Pattern Recognition*. 2014.

Chelsea Finn, James Duyck, Andy Hutcheon, Pablo Vera, Joaquin Salas, Sai Ravela. **Relevance feedback in biometric retrieval of animal photographs**. *Mexican Conference on Pattern Recognition (MCP)*. 2014.

Sai Ravela, James Duyck, Chelsea Finn. **Vision-Based Biometrics for Conservation**. *Mexican Conference on Pattern Recognition (MCP)*. 2013.

Workshop Papers and Abstracts

Chelsea Finn*, Paul Christiano*, Pieter Abbeel, Sergey Levine. **A Connection between Generative Adversarial Networks, Inverse Reinforcement Learning, and Energy-based Models**. *NIPS Workshop on Adversarial Training*. 2016.

Mark Woodward, Chelsea Finn. **Active One-Shot Learning**. *NIPS Deep Reinforcement Learning Workshop*. 2016.

Chelsea Finn, Lisa Anne Hendricks, Trevor Darrell **Learning Compact Convolutional Neural Networks with Nested Dropout**. *International Conference on Learning Representations (ICLR) – Workshop Contribution*. 2015.

Mentoring

Undergraduate research:

Nopphon Sirinart (currently PhD student at Stanford)

Justin Fu (currently PhD student at Berkeley)

Marvin Zhang (currently PhD student at Berkeley)

Anurag Ajay (incoming PhD student at MIT)

Emily Scharff

Xin Yu Tan

Tianhe Yu

Masters research:

Frederik Ebert (incoming PhD student at Berkeley)

Honors and Awards

ICRA Best Cognitive Robotics Paper Finalist	2017
C.V. Ramamoorthy Distinguished Research Award	2017
Tong Leong Lim Pre-Doctoral Prize	2016
Neural Information Processing Systems (NIPS) Foundation Travel Award	2016
National Science Foundation Graduate Research Fellowship	2015-present
Robotics: Science & Systems (RSS) Women in Robotics Travel Award	2015
National Defense Science and Engineering Graduate Fellowship (<i>declined</i>)	2015
IEEE-HKN Alton B. Zerby and Carl T. Koerner Outstanding Student Award	2015
SanDisk Fellowship	2015
UC Berkeley EECS Department Fellowship	2014
MIT SuperUROP Outstanding Presentation Award	2014

Professional Activities**Paper Reviewing:**

International Conference on Machine Learning (ICML) 2017
International Conference on Learning Representations (ICLR) 2017
Conference on Robot Learning (CORL) 2017
Communications of the ACM 2016
Neural Information Processing Systems (NIPS) 2016, 2017
International Journal of Robotics Research (IJRR) 2016, 2017
Robotics: Science and Systems (RSS) 2016
IEEE International Conference on Robotics and Automation (ICRA) 2016, 2017
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2016, 2017
IEEE Robotics and Automation Letters (RA-L) 2016, 2017

Workshop Organization:

Workshop on Deep Learning for Action and Interaction, NIPS 2016

Outreach

Berkeley AI & AI4ALL Camp , Co-Organizer	2017
Organized inaugural 2-day camp for 24 underprivileged high-school students	
Free camp with hands-on introduction to CS and AI, aiming to increase diversity in AI	
Women in Computer Science & Engineering , Outreach Co-coordinator	2016-2017
Women in Computer Science & Engineering , Co-President	2015-2016
Women in Machine Learning , ICML Lunch Mentor	2017
Career Panels at Minorities in STEM events	2015-2017
NASA When I Grow Up Career Exploration Event	
Graduate Pathways to STEM	
SWE Parent Education Outreach Program	

Invited Talks

Deep Reinforcement Learning, Decision Making, and Control. *ICML tutorial.*
August 2017.

Deep Predictive Learning for Acquiring Vision-Based Skills. *ICML Workshop on Reinforcement Learning*. August 2017.

Learning Representations for Versatile Behavior. *RSS Workshop on New Frontiers for Deep Learning in Robotics*. July 2017.

Learning through Interaction: Generalization in Robot Reinforcement Learning. *Symposium on Robot Learning, Berkeley, CA*. May 2017.

Learning through Interaction: Generalization in Robot Reinforcement Learning. *MIT*. April 2017.

Learning through Interaction: Generalization in Robot Reinforcement Learning. *Stanford University*. March 2017.

The Guided Policy Search Codebase. *Open-Source Software for Decision Making Workshop, Stanford University*. March 2017.

End-to-End Deep Robotic Learning. *Re-work Deep Learning Summit, San Francisco*. January 2017.

Guided Cost Learning and Connections to Generative Adversarial Modeling. *NIPS Deep Learning Symposium*. December 2016.

Large Scale Self-Supervised Robotic Learning. *NIPS Deep Reinforcement Learning Workshop*. December 2016.

Large Scale Self-Supervised Robotic Learning. *NIPS Neurobotics Workshop*. December 2016.

Robotic Visuomotor Learning. *3DV Tutorial: Workshop on Understanding 3D and Visuomotor Learning*. October 2016.

Learning Visual State Spaces and Objectives. *Google DeepMind*. May 2016.

Learning Visuomotor Skills. *OpenAI*. March 2016.

Robotic Visuomotor Learning. *Redwood Center for Theoretical Neuroscience*. November 2015.

End-to-End Training of Deep Visuomotor Policies. *Google, Inc.*. March 2015.

Efficient Text Detection in Human Environments. *MIT EECScon Undergraduate Research Conference*. April 2014.

Affiliations

Phi Beta Kappa Honor Society, Member	2014 – present
Tau Beta Pi Engineering Honor Society, Member	2013 – present
IEEE, Member	2013 – present
Eta Kappa Nu Electrical Engineering Honor Society, Member	2013 – present
Society of Women Engineers, Member	2010 – 2014

Press Coverage

“This Preschool is for Robots,” by Jack Clark. *Bloomberg Business*. 2 September 2015.

“Robot Demonstrates Human-Like Learning Abilities,” by Jonathan Bloom. ABC 7 News. 22 May 2015.

“Deep Learning Robots, DRC Practice, and Drone Pilot Competition,” by Evan Ackerman. IEEE Spectrum. 22 May 2015.

“New approach trains robots to match human dexterity and speed,” by John Markoff. The New York Times. 21 May 2015.