Bio

BIO
Chelsea Finn is an Assistant Professor in Computer Science and Electrical Engineering at Stanford University, and the William George and Ida Mary Hoover Faculty Fellow. Professor Finn's research interests lie in the ability to enable robots and other agents to develop broadly intelligent behavior through learning and interaction. Her work lies at the intersection of machine learning and robotic control, including topics such as end-to-end learning of visual perception and robotic manipulation skills, deep reinforcement learning of general skills from autonomously collected experience, and meta-learning algorithms that can enable fast learning of new concepts and behaviors. Professor Finn received her Bachelors degree in Electrical Engineering and Computer Science at MIT and her PhD in Computer Science at UC Berkeley. Her research has been recognized through the ACM doctoral dissertation award, an NSF graduate fellowship, a Facebook fellowship, the C.V. Ramamoorthy Distinguished Research Award, and the MIT Technology Review 35 under 35 Award, and her work has been covered by various media outlets, including the New York Times, Wired, and Bloomberg. Throughout her career, she has sought to increase the representation of underrepresented minorities within CS and AI by developing an AI outreach camp at Berkeley for underprivileged high school students, a mentoring program for underrepresented undergraduates across three universities, and leading efforts within the WiML and Berkeley WiCSE communities of women researchers.

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ACADEMIC APPOINTMENTS
• Assistant Professor, Computer Science
• Assistant Professor, Electrical Engineering
• Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
• Member, Wu Tsai Human Performance Alliance

HONORS AND AWARDS
• Research Fellowship, Alfred P. Sloan Foundation (2023)
• Early Academic Career Award in Robotics and Automation, IEEE RAS (2022)
• Young Investigator Award, Office of Naval Research (2021)
• Microsoft Faculty Fellowship, Microsoft (2020)
• ACM Doctoral Dissertation Award, ACM (2019)
• C.V. Ramamoorthy Distinguished Research Award, UC Berkeley (2017)
PROGRAM AFFILIATIONS
• Symbolic Systems Program

LINKS
• Academic website: http://ai.stanford.edu/~cbfinn/
• Google Scholar: https://scholar.google.com/citations?user=vfPE6hgAAAAJ
• CV: http://ai.stanford.edu/~cbfinn/_files/cv.pdf

Teaching

COURSES
2023-24
• Deep Multi-task and Meta Learning: CS 330 (Aut)

2022-23
• Deep Multi-task and Meta Learning: CS 330 (Aut)
• Deep Reinforcement Learning: CS 224R (Spr)

2021-22
• Deep Multi-task and Meta Learning: CS 330 (Aut)

2020-21
• Artificial Intelligence: Principles and Techniques: CS 221 (Spr)
• Deep Multi-task and Meta Learning: CS 330 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)
Anna Goldie, Jonathan Lee, Effie Li, Michael Lingelbach, Andrew Nam, Garrett Thomas

Postdoctoral Faculty Sponsor
Yuejiang Liu

Orals Evaluator
Jonathan Lee, Annie Xie

Doctoral Dissertation Advisor (AC)
Archit Sharma, Annie Xie

Master's Program Advisor
Vanessa Felix, Alycia Lee, Olivia Lee, Stella Su, David Wendt, Zachary Witzel, Sophie Wu, Zhiyu Xie, Kaien Yang, Michael Yang

Doctoral Dissertation Co-Advisor (AC)
Saurabh Kumar, Henrik Marklund

Doctoral (Program)
Kaylee Burns, Annie Chen, Zipeng Fu, Tian Gao, Kyle Hsu, Sasha Khazatsky, Moo Kim, Yoonho Lee, Rafael Rafailov, Archit Sharma, Anikait Singh, Yonatan Urman, Annie Xie, Jonathan Yang
Publications

PUBLICATIONS

- **Bayesian Embeddings for Few-Shot Open World Recognition.** *IEEE transactions on pattern analysis and machine intelligence*
  Willes, J., Harrison, J., Harakeh, A., Finn, C., Pavone, M., Waslander, S. L.
  2024; 46 (3): 1513-1529

- **A Fast and Accurate Machine Learning Autograder for the Breakout Assignment**
  ASSOC COMPUTING MACHINERY. 2024: 736-742

- **NeRF in the Palm of Your Hand: Corrective Augmentation for Robotics via Novel-View Synthesis**
  IEEE COMPUTER SOC. 2023: 17907-17917

- **Disentanglement via Latent Quantization**
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS). 2023

- **Cal-QL: Calibrated Offline RL Pre-Training for Efficient Online Fine-Tuning**
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS). 2023

- **Neural Functional Transformers**
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS). 2023

- **Permutation Equivariant Neural Functionals**
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS). 2023

- **Direct Preference Optimization: Your Language Model is Secretly a Reward Model**
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS). 2023

- **Train Offline, Test Online: A Real Robot Learning Benchmark**
  IEEE. 2023: 9197-9203

- **Self-Destructing Models: Increasing the Costs of Harmful Dual Uses of Foundation Models**
  Henderson, P., Mitchell, E., Manning, C. D., Jurafsky, D., Finn, C., ACM
  ASSOC COMPUTING MACHINERY. 2023: 287-296

- **Play it by Ear: Learning Skills amidst Occlusion through Audio-Visual Imitation Learning**
  Du, M., Lee, O. Y., Nair, S., Finn, C., Hauser, K., Shell, D., Huang, S.
  RSS FOUNDATION-ROBOTICS SCIENCE & SYSTEMS FOUNDATION. 2022

- **Memory-Based Model Editing at Scale**
  JMLR-JOURNAL MACHINE LEARNING RESEARCH. 2022

- **A State-Distribution Matching Approach to Non-Episodic Reinforcement Learning**
  Sharma, A., Ahmad, R., Finn, C., Chaudhuri, K., Jegelka, S., Song, L., Szepesvari, C., Niu, G., Sabato, S.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH. 2022: 19645-19657

- **Robust Policy Learning over Multiple Uncertainty Sets**
  Xie, A., Sodhani, S., Finn, C., Pineau, J., Zhang, A., Chaudhuri, K., Jegelka, S., Song, L., Szepesvari, C., Niu, G., Sabato, S.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH. 2022
• How to Leverage Unlabeled Data in Offline Reinforcement Learning
  Yu, T., Kumar, A., Chebotar, Y., Hausman, K., Finn, C., Levine, S., Chaudhuri, K., Jegelka, S., Song, L., Szepesvari, C., Niu, G., Sabato, S.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2022

• Improving Out-of-Distribution Robustness via Selective Augmentation
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2022

• Correct-N-Contrast: A Contrastive Approach for Improving Robustness to Spurious Correlations
  Zhang, M., Sohoni, N. S., Zhang, H. R., Finn, C., Re, C., Chaudhuri, K., Jegelka, S., Song, L., Szepesvari, C., Niu, G., Sabato, S.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2022

• Training and Evaluation of Deep Policies Using Reinforcement Learning and Generative Models
  Ghadirzadeh, A., Poklukar, P., Arndt, K., Finn, C., Kyrki, V., Kragic, D., Bjorkman, M.
  2022; 23

• Batch Exploration With Examples for Scalable Robotic Reinforcement Learning
  Chen, A. S., Nam, H., Nair, S., Finn, C.
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• Recovery RL: Safe Reinforcement Learning With Learned Recovery Zones
  Thananjeyan, B., Balakrishna, A., Nair, S., Luo, M., Srinivasan, K., Huang, M., Gonzalez, J. E., Ibarz, J., Finn, C., Goldman, K.
  2021; 6 (3): 4915-4922

• How to train your robot with deep reinforcement learning: lessons we have learned
  Ibarz, J., Tan, J., Finn, C., Kalakrishnan, M., Pastor, P., Levine, S.
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• WILDS: A Benchmark of in-the-Wild Distribution Shifts
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021

• Bayesian Meta-Learning for Few-Shot Policy Adaptation Across Robotic Platforms
  IEEE.2021: 1274-1280

• Offline Meta-Reinforcement Learning with Advantage Weighting
  Mitchell, E., Rafailov, R., Peng, X., Levine, S., Finn, C., Meila, M., Zhang, T.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021

• Deep Reinforcement Learning amidst Continual Structured Non-Stationarity
  Xie, A., Harrison, J., Finn, C., Meila, M., Zhang, T.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021

• Learning Generalizable Robotic Reward Functions from "In-The-Wild" Human Videos
  Chen, A. S., Nair, S., Finn, C., Shell, D. A., Toussaint, M., Hsieh, M. A.
  RSS FOUNDATION-ROBOTICS SCIENCE & SYSTEMS FOUNDATION.2021

• Decoupling Exploration and Exploitation for Meta-Reinforcement Learning without Sacrifices
  Liu, E., Raghunathan, A., Liang, P., Finn, C., Meila, M., Zhang, T.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021

• Just Train Twice: Improving Group Robustness without Training Group Information
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021
• CatFormer: Designing Stable Transformers via Sensitivity Analysis
  Davis, J., Gu, A., Choromanski, K., Dao, T., Re, C., Finn, C., Liang, P., Meila, M., Zhang, T.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021

• Actionable Models: Unsupervised Offline Reinforcement Learning of Robotic Skills
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2021

• Greedy Hierarchical Variational Autoencoders for Large-Scale Video Prediction
  Wu, B., Nair, S., Martin-Martin, R., Li Fei-Fei, Finn, C., IEEE COMP SOC
  IEEE COMPUTER SOC.2021: 2318-2328

• Scalable Multi-Task Imitation Learning with Autonomous Improvement
  IEEE.2020: 2167-2173

• OmniTact: A Multi-Directional High-Resolution Touch Sensor
  Padmanabha, A., Ebert, F., Tian, S., Calandra, R., Finn, C., Levine, S., IEEE
  IEEE.2020: 618-624

• Meta-Inverse Reinforcement Learning with Probabilistic Context Variables
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2019

• Unsupervised Curricula for Visual Meta-Reinforcement Learning
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2019

• Unsupervised Visuomotor Control through Distributional Planning Networks
  Yu, T., Shevchuk, G., Sadigh, D., Finn, C., Bicchi, A., KressGazit, H., Hutchinson, S.
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• One-Shot Composition of Vision-Based Skills from Demonstration
  Yu, T., Abbeel, P., Levine, S., Finn, C., IEEE
  IEEE.2019: 2643–50