Stanford



Chelsea Finn

Assistant Professor of Computer Science and of Electrical Engineering

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 data, 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, the Presidential Early Career Award for Scientists and Engineers, and the MIT Technology Review 35 under 35 list, 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.

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

- Presidential Early Career Award for Scientists and Engineers, United States federal government (2025)
- 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)
- 35 Under 35 Innovator, MIT Technology Review (2018)
- 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

2025-26

- Deep Reinforcement Learning: CS 224R (Spr)

2024-25

- Deep Reinforcement Learning: CS 224R (Spr)

2023-24

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

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Yihuai Gao, Tyler Lum, Suvir Mirchandani, Jingyun Yang

Postdoctoral Faculty Sponsor

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Doctoral Dissertation Advisor (AC)

Moo Kim, Yoonho Lee

Orals Evaluator

Moo Kim

Master's Program Advisor

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Perry Dong, Jubayer Hamid, Henrik Marklund, Ajay Sridhar

Doctoral (Program)

Lars Ankile, Tian Gao, Moo Kim, Yoonho Lee, Anikait Singh, Alexander Swerdlow, Marcel Torne Villasevil, Yonatan Urman, Jonathan Yang

Publications

PUBLICATIONS

- **SRT-H: A hierarchical framework for autonomous surgery via language-conditioned imitation learning.** *Science robotics*

Kim, J. W., Chen, J. T., Hansen, P., Shi, L. X., Goldenberg, A., Schmidgall, S., Scheikl, P. M., Deguet, A., White, B. M., Tsai, D. R., Cha, R. J., Jopling, J., Finn, et al
2025; 10 (104): eadt5254

- **A Tutorial on Meta-Reinforcement Learning** *FOUNDATIONS AND TRENDS IN MACHINE LEARNING*
  Beck, J., Vuorio, R., Liu, E., Xiong, Z., Zintgraf, L., Finn, C., Whiteson, S.
  2025; 18 (2-3)

- **RoboArena: Distributed Real-World Evaluation of Generalist Robot Policies**
  Atreya, P., Pertsch, K., Lee, T., Kim, M., Jain, A., Kuramshin, A., Eppner, C., Neary, C., Hub, E., Ramos, F., Tremblay, J., Arora, K., Ellis, et al
  edited by Lim, J., Song, S., Park, H. W.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2025: 336-364

- **CoT-VLA: Visual Chain-of-Thought Reasoning for Vision-Language-Action Models**
  Zhao, Q., Lu, Y., Kim, M., Fu, Z., Zhang, Z., Wu, Y., Li, Z., Ma, Q., Han, S., Finn, C., Handa, A., Lin, T., Wetzstein, et al
  IEEE COMPUTER SOC.2025: 1702-1713

- **ADAPT ON-THE-GO: BEHAVIOR MODULATION FOR SINGLE- LIFE ROBOT DEPLOYMENT**
  Chen, A. S., Chada, G., Smith, L., Sharma, A., Fu, Z., Levine, S., Finn, C.
  edited by Chandar, S., Pascanu, R., Eaton, E., Liu, B., Mahmood, R., Rannen-Triki, A.
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- **Helpful DoggyBot: Open-World Object Fetching using Legged Robots and Vision-Language Models**
  Wu, Q., Fu, Z., Cheng, X., Wang, X., Finn, C.
  edited by Laugier, C., Atanasov, N., Birchfield, S., Cielniak, G., DeMattos, L., Fiorini, L., Giguere, P., Hashimoto, K., Ibanez-Guzman, J., Kamegawa, T., Lee, J., Laugier, C., Loianno, G., Luck, K., Maruyama, H., Martinet, P., Moradi, H., Nunes, U., Pettre, J., Pretto, A., Ranzani, T., Ronnau, A., Rossi, S., Rouse, E., Ruggiero, F., Simonin, O., Wang, D., Yang, M., Yoshida, E., Zhao, H.
  IEEE.2025: 8826-8833

- **Commonsense Reasoning for Legged Robot Adaptation with Vision-Language Models**
  Chen, A. S., Lessing, A. M., Tang, A., Chada, G., Smith, L., Levine, S., Finn, C.
  edited by Ott, C.
  IEEE.2025: 12826-12833

- **SPEEDTUNING: Speeding Up Policy Execution with Lightweight Reinforcement Learning**
  Yuan, D. D., Zhao, T. Z., Burns, K., Finn, C.
  edited by Ott, C.
  IEEE.2025: 1184-1192

- **RoboCrowd: Scaling Robot Data Collection through Crowdsourcing**
  Mirchandani, S., Yuan, D. D., Burns, K., Islam, M., Zhao, T. Z., Finn, C., Sadigh, D.
  edited by Ott, C.
  IEEE.2025: 1392-1399

- **Latent Diffusion Planning for Imitation Learning**
  Xie, A., Rybkin, O., Sadigh, D., Finn, C.
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  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2025: 68710-68724

- **Affordance-Guided Reinforcement Learning via Visual Prompting**
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- **Hi Robot: Open-Ended Instruction Following with Hierarchical Vision-Language-Action Models**
  Shi, L., Ichter, B., Equi, M., Ke, L., Pertsch, K., Vuong, Q., Tanner, J., Walling, A., Wang, H., Fusai, N., Li-Bell, A., Driess, D., Groom, et al
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- **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**
  Liu, E., Yuan, D., Ahmed, A., Cornwall, E., Woodrow, J., Burns, K., Nie, A., Brunskill, E., Piech, C., Assoc Computing Machinery
  ASSOC COMPUTING MACHINERY.2024: 736-742

- **Surgical Robot Transformer (SRT): Imitation Learning for Surgical Tasks**
  Kim, J., Zhao, T. Z., Schmidgall, S., Deguet, A., Kobilarov, M., Finn, C., Krieger, A.
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- **Robot Fine-Tuning Made Easy: Pre-Training Rewards and Policies for Autonomous Real-World Reinforcement Learning**
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  IEEE.2024: 4804-4811

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  Haas, L., Skreta, M., Alberti, S., Finn, C., IEEE
  IEEE COMPUTER SOC.2024: 12893-12902

- **Open X-Embodiment: Robotic Learning Datasets and RT-X Models**
  O'Neill, A., Rehman, A., Gupta, A., Maddukuri, A., Gupta, A., Padalkar, A., Lee, A., Pooley, A., Gupta, A., Mandlekar, A., Jain, A., Tung, A., Bewley, et al
  IEEE.2024: 6892-6903

- **SERL: A Software Suite for Sample-Efficient Robotic Reinforcement Learning**
  Luo, J., Hu, Z., Xu, C., Tan, Y., Berg, J., Sharma, A., Schaal, S., Finn, C., Gupta, A., Levine, S., IEEE
  IEEE.2024: 16961-16969

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  Park, R., Rafailov, R., Ermon, S., Finn, C.
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  Lee, Y., Lam, M. S., Vasconcelos, H., Bernstein, M. S., Finn, C., ACM
  ASSOC COMPUTING MACHINERY.2024

- **NeRF in the Palm of Your Hand: Corrective Augmentation for Robotics via Novel-View Synthesis**
  Zhou, A., Kim, M., Wang, L., Florence, P., Finn, C., IEEE
  IEEE COMPUTER SOC.2023: 17907-17917

- **Meta-Learning Online Adaptation of Language Models**
  Hu, N., Mitchell, E., Manning, C. D., Finn, C.
  edited by Bouamor, H., Pino, J., Bali, K.
  ASSOC COMPUTATIONAL LINGUISTICS-ACL.2023: 4418-4432

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  Lee, J. N., Xie, A., Pacchiano, A., Chandak, Y., Finn, C., Nachum, O., Brunskill, E.
  edited by Oh, A., Neumann, T., Globerson, A., Saenko, K., Hardt, M., Levine, S.
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  Hatch, K., Eysenbach, B., Rafailov, R., Yu, T., Salakhutdinov, R., Levine, S., Finn, C.
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  Zhuang, Z., Fu, Z., Wang, J., Atkeson, C., Schwertfeger, S., Finn, C., Zhao, H.
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  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2023

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  Sontakke, S. A., Zhang, J., Arnold, S. M. R., Pertsch, K., Biyik, E., Sadigh, D., Finn, C., Itti, L.
  edited by Oh, A., Neumann, T., Globerson, A., Saenko, K., Hardt, M., Levine, S.
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  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
- **Train Offline, Test Online: A Real Robot Learning Benchmark**
  Zhou, G., Dean, V., Srirama, M., Rajeswaran, A., Pari, J., Hatch, K., Jain, A., Yu, T., Abbeel, P., Pinto, L., Finn, C., Gupta, A., IEEE
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  Du, M., Lee, O. Y., Nair, S., Finn, C.
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  Chen, X., Ghadirzadeh, A., Yu, T., Wang, J., Gao, Y., Li, W., Liang, B., Finn, C., Zhang, C.
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