

# Archit Sharma

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## Education

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### Stanford University

PhD in Computer Science, **Advisor:** Chelsea Finn

Jan' 21 – Present

### IIT Kanpur

B.Tech in Electrical Engineering, GPA: 9.9/10

Jul' 14 – Jun' 18

Minors: Machine Learning, Linguistics

## Experience

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### Toyota Research Institute

Research Intern

Fine-tuning large language models.

Los Altos, CA

Jun' 23 – Sep' 23

### Google Brain

AI Resident

Deep reinforcement learning.

Mountain View, CA

Jul' 18 – Dec' 20

### IIT Kanpur

Undergraduate Researcher, Supervisor: Piyush Rai

Expectation maximization algorithms for mixture-of-experts.

Kanpur, India

Aug' 17 – Apr' 18

### Mila - Quebec Artificial Intelligence Institute

Research Intern, Supervisor: Yoshua Bengio

Gradient estimation across discrete latent variables in deep neural networks.

Montreal, QC, Canada

May' 17 – Aug' 17

## Selected Articles (\* = equal contribution)

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Rafael Rafailov\*, **Archit Sharma\***, Eric Mitchell\*, Stefano Ermon, Christopher D. Manning, and Chelsea Finn. *Direct Preference Optimization: Your Language Model is Secretly a Reward Model*. Neural Information Processing Symposium (NeurIPS), 2023 (**Outstanding Paper Runner Up**). <https://openreview.net/forum?id=HPuSIXJaa9>.

**Archit Sharma**, Shixiang Gu, Sergey Levine, Vikash Kumar, and Karol Hausman. *Dynamics-Aware Unsupervised Discovery of Skills*. International Conference on Learning Representations (ICLR), 2020 (**Oral Presentation, <2% rate**). <https://openreview.net/forum?id=HJgLZR4KvH>.

**Archit Sharma**, Sedrick Keh, Eric Mitchell, Chelsea Finn, Kushal Arora, and Thomas Kollar. *A Critical Evaluation of AI Feedback for Aligning Language Large Language Models*. arXiv preprint, 2024. <https://arxiv.org/abs/2402.12366>.

Lucy Xiaoyang Shi\*, **Archit Sharma\***, Tony Z. Zhao, and Chelsea Finn. *Waypoint-Based Imitation Learning for Robotic Manipulation*. Conference on Robot Learning (CoRL), 2023. <https://openreview.net/forum?id=X0cm1Th1V1>.

Jingyun Yang\*, Max Sobol Mark\*, Brandon Vu, **Archit Sharma**, Jeannette Bohg, and Chelsea Finn. *Robot Fine-Tuning Made Easy: Pre-Training Rewards and Policies for Autonomous Real-World*

*Reinforcement Learning*. International Conference on Robotics and Automation (ICRA), 2024. <https://arxiv.org/abs/2310.15145>.

**Archit Sharma**, Ahmed Ahmed, Rehaan Ahmad, and Chelsea Finn. *Self-Improving Robots: End-to-End Autonomous Visuomotor Reinforcement Learning*. Conference on Robot Learning (CoRL), 2023. <https://openreview.net/forum?id=ApXLUk8U-1>.

Katherine Tian, Eric Mitchell, Allan Zhou, **Archit Sharma**, Rafael Rafailov, Huaxiu Yao, Chelsea Finn, and Christopher D. Manning. *Just Ask for Calibration: Strategies for Eliciting Calibrated Confidence Scores from Language Models Fine-Tuned with Human Feedback*. Empirical Methods in Natural Language Processing (EMNLP), 2023. <https://openreview.net/forum?id=g3faCfrwm7>.

**Archit Sharma\***, Rehaan Ahmad\*, and Chelsea Finn. *A State-Distribution Matching Approach to Non-Episodic Reinforcement Learning*. International Conference on Machine Learning (ICML), 2022. <https://proceedings.mlr.press/v162/sharma22a.html>.

## Honors

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<b>General Proficiency Medal</b>	2018
Graduating with the highest GPA among EE graduates at IIT Kanpur.	
<b>Motorola Gold Medal</b>	2018
Overall achievement among CS/EE graduates at IIT Kanpur.	
<b>Proficiency Prize</b>	2018
Outstanding Undergraduate Research at IIT Kanpur.	
<b>Lalit Narain Das Memorial Scholarship</b>	2018
Best Senior Student in Electrical Engineering, IIT Kanpur	
<b>Sri Singhasan Singh Scholarship</b>	2017
Highest GPA in Electrical Engineering, IIT Kanpur	
<b>Academic Excellence Award</b>	2015, 2016, 2017
Equivalent to Dean's list at IIT Kanpur.	
<b>Joint Entrance Examination</b>	2014
All India Rank 376 out of 150,000 students.	
<b>National Talent Search Scholarship (NTSE)</b>	2010
Awarded to 1000 students by Govt. of India.	

## Miscellaneous

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**Reviewing:** ICLR, NeurIPS, CoRL

**Mentorship:** (*Stanford* undergraduate/MS students) Nikhil Sardana, Rehaan Ahmad, Leo Dong, Fahim Tajwar, Ahmed Ahmed, Sergio Charles, Max Sobol Mark, Lucy Shi

**Talks:**

- *Beyond RLHF: Simple, Principled and Efficient Fine-tuning of LMs on Human Preferences using DPO*: Stanford, Perplexity AI, DeepMind, Anthropic, Toyota Research Institute, University of Toronto, NeurIPS 2023, Netflix
- *Waypoint-Based Imitation Learning for Robotic Manipulation*: Google DeepMind Robotics
- *Building Autonomous Reinforcement Learning Agents*: Guest Lecture, CS224R @ Stanford.

- *Dynamics-Aware Unsupervised Discovery of Skills*: Oral Presentation at ICLR 2020, Task-agnostic Reinforcement Learning at ICLR 2019 and, Stanford University
- *Towards Autonomous Learning Agents: Challenges and Opportunities in Non-Episodic RL*: Intel, IMPAN RL Seminar
- *On Unsupervised and Autonomous Reinforcement Learning*: Generally Intelligent Podcast

**Entry on Google AI Blog**: Unsupervised Reinforcement Learning for Skill Discovery

**Entry on Stanford AI Laboratory Blog**: Self-Improving Robots: Embracing Autonomy in Robot Learning

**Teaching**: (TA, *Stanford*) CS330: Deep Multi-task and Meta-Learning, (Research mentorship at *IIT Kanpur*) CS698X: Topics in Probabilistic Modeling and Inference