Joey Hejna

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Education

Stanford University *September 2021 - Present*
PhD in Computer Science, AI **GPA: 4.3/4.0**

- *Funding Awards:* I am graciously supported by a DoD NDSEG Fellowship, roughly 5% selection rate.
- *Research*: Advised by Dorsa Sadigh. My research focuses on learning for decision-making and robotics.

University of California, Berkeley *August 2017 – May 2021*
B.S. in Electrical Engineering and Computer Science **GPA: 4.0/4.0**

- *Academic Awards:* Highest Honors, top 3% of graduates; Regents and Chancellors Scholar, top <2% incoming
- *Research:* Advised by Pieter Abbeel and Lerrel Pinto. CRA Undergrad Research Award Honorable mention

Publications

Data Retrieval with Importance Weights for Few-Shot Imitation Learning *CoRL 2025 **(Oral)***
Amber Xie, Rahul S Chand, Dorsa Sadigh, Joey Hejna https://arxiv.org/abs/2509.01657

Scaffolding Dexterous Manipulation with Vision-Language Models *NeurIPS 2025*
Vincent DeBakker, Joey Hejna, Tyler Lum, Onur Celik, Aleksandar Taranovic, Denis Blessing, Gerhard Neumann, Jeannette Bohg, Dorsa Sadigh. https://sites.google.com/view/dexterous-vlm-scaffolding

Robot Data Curation with Mutual Information Estimators *RSS 2025*
Joey Hejna, S Mirchandani, A Balakrishna, A Xie, A Wahid, J Tompson, P Sanketi, D Shah, C Devin, D Sadigh
https://jhejna.github.io/demonstration-info

Efficiently Generating Expressive Quadruped Behaviors via Language-Guided Preferences *ICRA 2025*
Jaden Clark, Joey Hejna, Dorsa Sadigh, https://lgpl-gaits.github.io/

Vision-Language Models are In-Context Value Learners *ICLR 2025*
J Ma, Joey Hejna, … Google DeepMind Robotics …, D Sadigh, F Xia https://generative-value-learning.github.io/

Show, Don't Tell: Aligning Language Models with Demonstrated Feedback *ICLR 2025*
O Shaikh*, M Lam*, Joey Hejna*, S Yao, M Bernstein, D Yang https://arxiv.org/abs/2406.00888

ReMix: Optimizing Dataset Mixtures for Large Scale Imitation Learning *CoRL 2024 **(Best Paper Nominee)***
Joey Hejna, Chet Bhateja, Yichen Jiang, Karl Pertsch, Dorsa Sadigh https://arxiv.org/abs/2408.14037

So You Think You Can Scale Autonomous Imitation Learning? *CoRL 2024*
S Mirchandani, S Belkhale, Joey Hejna, E Choi, Md Sazzad Islam, D Sadigh https://arxiv.org/abs/2411.01813

MotIF: Motion Instruction Finetuning *IEEE RA-L*
Minyoung Hwang, Joey Hejna, Dorsa Sadigh, Yonatan Bisk https://arxiv.org/abs/2409.10683

Scaling Laws for Reward Model Overoptimization in Direct Alignment Algorithms *NeurIPS 2024*
R Rafailov*, Y Chittepu*, R Park*, H Sikchi*, J Hejna, WB Knox, C Finn, S Niekum https://arxiv.org/abs/2406.02900

From r to Q*: Your Language Model is Secretly a Q-Function *CoLM 2024*
Rafael Rafailov*, Joey Hejna*, Ryan Park, Chelsea Finn

DROID: A Large Scale In-the-Wild Robot Manipulation Dataset *RSS 2024*
Aleksander Khazatsky, Karl Pertsch, … Joey Hejna, et al. https://droid-dataset.github.io/

Octo: An Open Source Generalist Robot Policy *RSS 2024*
Octo team, … Joey Hejna, et al. https://octo-models.github.io/

Contrastive Preference Learning: Learning from Human Feedback without RL *ICLR 2024*
Joey Hejna, R Rafailov, H Sikchi, C Finn, S Niekum, WB Knox, D Sadigh https://arxiv.org/abs/2310.13639

Inverse Preference Learning: Preference-based RL Without a Reward Function *NeurIPS 2023*
Joey Hejna, Dorsa Sadigh. https://arxiv.org/abs/2305.15363

Distance Weighted Supervised Learning *ICML 2023*
Joey Hejna, Jensen Gao, Dorsa Sadigh. https://arxiv.org/abs/2304.13774

Extreme Q-Learning: MaxEnt RL without Entropy *ICLR 2023 (**Oral**)*
Div Garg*, Joey Hejna*, Mattheiu Gesit, Stefano Ermon. https://openreview.net/pdf?id=SJ0Lde3tRL

Few-Shot Preference Learning for Human-in-the-Loop RL *CoRL 2022*
Joey Hejna, Dorsa Sadigh. https://openreview.net/pdf?id=IKC5TfXLuW0

Improving Long-Horizon Imitation Through Instruction Prediction *AAAI 2023*
Donald Joseph Hejna III, Pieter Abbeel, Lerrel Pinto. https://openreview.net/pdf?id=1Z3h4rCLvo-

Task-Agnostic Morphology Evolution *ICLR 2021*
Donald Joseph Hejna III, Pieter Abbeel, Lerrel Pinto. https://openreview.net/pdf?id=CGQ6ENUMX6

Hierarchically Decoupled Imitation for Morphological Transfer *ICML 2020*
Donald Joseph Hejna III, Pieter Abbeel, Lerrel Pinto. https://arxiv.org/abs/2003.01709

Work Experience

Physical Intelligence, Research Intern *June 2025 – Sept 2025*
Visiting researcher at Physical Intelligence based in San Francisco, working on robot foundation model pre-training.

Google DeepMind, Student Researcher *June 2024 – Nov 2024*
Student researcher on the Google DeepMind robotics team in Mountain View, working on data quality and curation.

Citadel Global Quantitative Strategies, Intern *June 2019 – August 2019*
Developed C++ proxy and API for job monitoring, worked on APIs for trade messages, explored reducing peak memory usage of decision tree training libraries.

Intel AI Products Group, Intern *May 2018 –August 2018*
Created demos for Intel OpenVino Model Optimizer. Computer vision project featured on intel's blog and developed workflows for AWS model training.

Open Source

Research Lightning *https://github.com/jhejna/research-lightning*
A framework for quickly implementing deep learning algorithms in PyTorch. Reproduces SAC, TD3, PPO, etc. This repository served as the basis for multiple research projects.

OpenX *https://github.com/jhejna/openx*
A framework for training large behavior models using the OpenX Embodiment datasets in JAX, FLAX, and TFDS. This project also served as the basis for multiple research projects.

Teaching

CS 221: Artificial Intelligence, Course Assistant *Autumn 2024*
Owned homework assignments, ran office hours.

CS 221: Artificial Intelligence, Head Course Assistant *Autumn 2023*
Head course assistant for Stanford CS 221. Lead a staff of 20 TAs for one of Stanford's larger AI classes (400+ enrollees), managing the creation of exams, sections, supervision of projects, and lead development of a new homework assignment on reinforcement learning.

CS 189: Machine Learning, Teaching Assistant *Spring 2020, Spring 2021*
Created content for and ran weekly sections in addition to office hours. During COVID, was the designated "zoom" section leader. Wrote neural nets HW. Overall rating of 4.61/5.00 in comparison to department average of 4.41

EECS 127: Optimization Models, Teaching Assistant *Fall 2020*
Created content for and led sections on linear alg, duality, convex models. Additionally was responsible for internal course logistics and web management.

CS 70: Discrete Math and Probability Theory, Teaching Assistant *Fall 2019*
Designed and taught weekly discussions. Earned overall 4.68/5.00 rating in comparison to department average of 4.33.

Mentorship

Amber Xie. Stanford CS PhD student
Rahul Chand. Stanford CS masters, Next: PhD Applications
Jaden Clark. Stanford CS undergraduate, Next: PhD at Stanford
Vincent de Bakker. Karlsruhe Institute of Technology undergraduate, Next: Quantitative Trading at Jane Street
Chethan Bhateja. Stanford CS masters, Next: Research at 1X, Dyna
Minyoung Huang. CMU Visiting Researcher, Next: PhD at MIT
Hristo Todorov. Stanford CS undergraduate

Fellowships and Awards

Outstanding Paper Award Finalist for "ReMix", CoRL 2024. Awarded to the top 6 of 671 submissions (1%).
Finalist, Qualcomm Innovation Fellowship 2024, joint with Suvir Mirchandani
NeurIPS 2023 Distinguished Reviewer
ICML 2023 Outstanding Reviewer
DoD NDSEG Fellowship 2021, roughly a 5% selection rate.
CRA Undergrad Research Award Honorable Mention, 2021. Awarded to top undergrad CS researchers in the US.
Highest Honors, UC Berkeley Engineering 2021, top 3% of graduating class.
Regents and Chancellors Scholar. Awarded to <2% of top entering undergraduate students at UC Berkeley
EECS Honors Program. Program for high achieving students in academics and research.
Dean's List. Awarded for maintaining academic position in top <10% of engineering students at UC Berkeley.
Eta Kappa Nu (EECS Honors Society). Top students in EECS.
Rambus Innovator of the Future 2017. Scholarship awarded for exceptional academics and research.
Kraft Award for Freshmen. Awarded to ~4% of freshmen UC Berkeley students for academic standing.

Invited Talks

Waymo Reading Group May 2025: Simplifications for Learning from Human Feedback
Informs 2024, Integrating GenAI and Sequential Decision-Making Workshop: Training and Adapting Large-scale Robot Foundation Models
Principles of Robot Autonomy II, Guest lecture on Imitation Learning and Reward shaping
Stanford Robotics Seminar, Guest lecture on Data Curation with Mutual Information Estimators
CoRL 2024, Oral Presentation: Optimizing Data Mixtures for Large Scale Imitation Learning
ICLR 2023, Oral Presentation: Extreme Q-Learning
CalHacks 2020, ML Workshop Instructor and Developer, https://github.com/jhejna/mlworkshop