

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 2% selection rate.
- *Research Interest:* My research focuses on learning for intelligent decision-making systems.

University of California, Berkeley

August 2017 – May 2021

B.S. 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 Awards:* 2021 CRA Undergrad Research Award Honorable mention

Publications

Inverse Preference Learning: Preference-based RL Without a Reward Function

Under Review

Joey Hejna, Dorsa Sadigh. <https://arxiv.org/abs/2305.15363>

- Algorithm for directly aligning Q-function with user preferences, circumventing reward learning.

Distance Weighted Supervised Learning

Published at ICML 2023

Joey Hejna, Jensen Gao, Dorsa Sadigh. <https://arxiv.org/abs/2304.13774>

- Derived method to learn optimal KL-constrained policies in offline goal conditioned RL without TD learning.

Extreme Q-Learning: MaxEnt RL without Entropy

Published at ICLR 2023

Div Garg*, Joey Hejna*, Mattheiu Gesit, Stefano Ermon. <https://openreview.net/pdf?id=SJ0Lde3tRL>

- Introduce a Q-learning framework that models the optimal soft-values without needing to sample from a policy.

Few-Shot Preference Learning for Human-in-the-Loop RL

Published at CoRL 2022

Joey Hejna, Dorsa Sadigh. <https://openreview.net/pdf?id=IKC5TfXLUW0>

- Leverage pretraining strategies to improve the query-complexity of preference learning by 20X on robotic tasks.

Improving Long-Horizon Imitation Through Instruction Prediction

Published at AAAI 2023

Donald Joseph Hejna III, Pieter Abbeel, Lerrel Pinto. <https://openreview.net/pdf?id=1Z3h4rCLvo->

- We show that modeling language instructions drastically improves generalization in low data regimes.

Task-Agnostic Morphology Evolution

Published at ICLR 2021

Donald Joseph Hejna III, Pieter Abbeel, Lerrel Pinto. <https://openreview.net/pdf?id=CGQ6ENUMX6>

- We introduce the first unsupervised algorithm for agent design optimization using unsupervised objectives.

Hierarchically Decoupled Imitation for Morphological Transfer

Published at ICML 2020

Donald Joseph Hejna III, Pieter Abbeel, Lerrel Pinto. <https://arxiv.org/abs/2003.01709>

- Leverage imitation techniques to develop approaches for transferring robot policies across embodiments.

Improving Latent Representations via Explicit Disentanglement

Course Project – Unsupervised Learning

Donald Joseph Hejna III*, Ashwin Vangipuram*, Kara Liu*. <http://joeyhejna.com/files/disentanglement.pdf>

- Introduce three methods for disentangling latent representations: cycle loss, divergence penalty, factor prediction.

Professional Experience

Citadel Global Quantitative Strategies, Intern

June 2019 – August 2019

- Developed C++ proxy and API to improve job monitoring, KDB testing scripts for multi-server trading systems.
- Explored techniques for reducing RAM usage of decision tree training libraries. Achieved 75% load reduction.

Intel AI Products Group, Intern

May 2018 – August 2018

- Produced demo-products for Intel OpenVino Model Optimizer. Computer vision project [featured on intel's blog](#).

Activities and Projects

Research Lightning

<https://github.com/jhejna/research-lightning>

- A lightweight open-source framework used for quickly implementing deep learning algorithms in pytorch.

EECS Department, Teaching Assistant

August 2019 - Present

- CS 189: Machine Learning (Sp20, Sp21). EECS 127: Optimization Models (Fa20). CS 70: Discrete Math and Probability (Fa19).