

Education

University of California, Berkeley

August 2017 - Present

B.S. Electrical Engineering and Computer Science

GPA: 4.0/4.0

- *Academic Awards:* Regents and Chancellors Scholar, top <2% undergraduates. Dean's List, top <10% academics
- *Research Awards:* CRA Undergrad Research Award honorable mention, Rambus Innovator of the Future
- *Courses:* ML, AI, OS, Algos, Lin. Alg, Probability, Optimization, Info Thy, DeepRL, Data Struct, Unsupervised.

Experience

Robot Learning Lab, Undergraduate Researcher

November 2019 – Present

- Working under the supervision of Professors Pieter Abbeel and Lerrel Pinto (NYU) on problems relating to efficient reinforcement learning and robotics. First-authored two papers in nine-months (see below).

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.
- Created APIs for trade messages, unified with query systems under a central platform for easy use by traders.
- 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](#).
- Documented workflows for AWS model training, explored gradient based explanations for CV and NLP models.

Auto Lab, Undergraduate Researcher

Jan 2019 – June 2019

- Integrating object detection models (SSD) with grasp quality networks for robot manipulation using DexNet.

Switchboard, Contracted Android Developer

Jan 2018 – August 2018

- Programmed a multi-user voice-communication android app for Berkeley Skydeck Startup via TokBox API.
- Routed user events using SocketIO, guaranteed delivery with ack messages. Custom API for feed, notifications.

Publications

Hierarchically Decoupled Imitation for Morphological Transfer

Published at ICML 2020

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

- We overcome different input/output spaces using a hierarchical structure and contribute two key algorithmic improvements motivated by information theory to overcome the domain shift induced in transfer.
- Empirically show that transferring policies across agents offers massive improvements in sample efficiency.

Task-Agnostic Morphology Evolution

Under Review 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.
- Empirically, we outperform task-supervised algorithms in multi-task settings while being 4x as fast.

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.

Activities

EECS Department, Teaching Assistant

August 2019 - Present

- EECS 127: Optimization Models. Fall 2020. Teaching sections. Course includes lin alg., duality, convex models
- CS 189: Machine Learning. Fall Spring 2020. Weekly sections, office hours, creating questions and content.
- CS 70: Discrete Math and Probability Theory. Fall 2019. Taught two weekly discussion sections, office hours.

UC Berkeley Launchpad, Project Lead

August 2019 - Present

- Built and taught an [introductory curriculum](#) for machine learning and advanced [workshops on deep learning](#).
- Led students in a [project](#) on self-play in reinforcement learning, having an agent learn pong by playing itself.

Programming: Python, Java, C, Pytorch, Tensorflow 1.0, NumPy, AWS, Docker, Unix, HTML/CSS, C++ (limited)