Dhruv Sreenivas

dhruv.sreenivas@gmail.com | (978)424-7614 | linkedin.com/in/dhruvsreenivas | github.com/dhruvsreenivas

EDUCATION

Mila, Université de Montréal — Montréal, QC
Ph.D. Computer Science — Sep 2024 - Present
GPA: 0.0/0.0 — Advisor: Pablo Samuel Castro

Cornell University — Ithaca, NY
M.S. Computer Science — Aug 2021 - Aug 2023
GPA: 4.30/4.0 — Advisors: Wen Sun, Robert Kleinberg

- TA for CS 2110, CS 4789, CS 6756 (PhD), CS 6789 (PhD)

B.S. Computer Science, Mathematics — Aug 2018 - May 2021
GPA: 3.66/4.0

Notable awards: AIME Qualifier (2015-2018) (8/15 on 2017 exam), 68th in Massachusetts Mathematical Olympiad (2014)

PUBLICATIONS & SERVICE

3. ***Adversarial Imitation Learning via Boosting***
   Jonathan Chang, **Dhruv Sreenivas**, Yingbing Huang, Kianté Brantley, Wen Sun
   ICLR 2024

2. ***Deep Multi-Modal Structural Equations For Causal Effect Estimation With Unstructured Proxies***
   Shachi Deshpande, Kaiwen Wang, **Dhruv Sreenivas**, Zheng Li, Volodymyr Kuleshov
   NeurIPS 2022

1. ***Mitigating Covariate Shift in Imitation Learning via Offline Data Without Great Coverage***
   Jonathan Chang, Masatoshi Uehara, **Dhruv Sreenivas**, Rahul Kidambi, Wen Sun
   NeurIPS 2021

- Reviewer for NeurIPS 2023, ICLR 2024

ACADEMIC RESEARCH EXPERIENCE

Cornell University - Prof. Wen Sun — Ithaca, NY
Undergraduate/Graduate Researcher — Sep 2020 – Dec 2023
- Assisted on projects focused on (1) joint representation learning for imitation learning in high-dimensional environments (e.g. Atari) and (2) model-based offline imitation learning in state-based, image-based and non-action-based graphics settings
- Co-led a project focused on making Discriminator Actor-Critic more principled via gradient boosting methods
- Other non-thesis projects included (1) self-predictive learning for RL in the image-based control context and (2) hybrid learning from preferences, both for RLHF-based and RL-free algorithms
- Assisted another student on a project focusing on using RL to finetune image generative models such as diffusion and consistency models

Mila - Quebec AI Institute — Montréal, QC (remote)
Research Collaborator — Apr 2021 – Mar 2022
- Reinforcement learning research for the LambdaZero project focusing on scaling drug discovery
- Looked into ways to improve exploration in GFlowNets using techniques such as epistemic uncertainty estimation, RND, and asymmetric self-play

INDUSTRY EXPERIENCE

Cohere — San Francisco, CA (remote)
Intern of Technical Staff - Research — Jun 2024 – Aug 2024
- Worked on reinforcement learning for language model finetuning, with a focus on multistep reasoning
- Concurrently implemented SOTA preference learning algorithms and improved large language model training infrastructure as part of RL team needs
- Advised by Mohammad Gheshlaghi Azar & Olivier Pietquin

Apple MLR — Cupertino, CA
Research Intern — May 2022 – Sep 2022
- Proposed using simple clustering of subtrajectory representations for offline option learning, advised by Walter Talbott
- Resulting method was shown to be qualitatively much better than other methods at detecting behavioral differences across diverse offline datasets in the pixel-based DeepMind Control Suite, allowing for effective option learning and simpler offline RL
- Implemented Dreamer recurrent world model and image-based discrete CQL in PyTorch, compatible with GPU accelerators and SLURM workload management
- Explored various different techniques for representation learning, including view-based and reconstruction-based methods
- Concurrently studied representation learning for on-policy RL with Riashat Islam & Devon Hjelm

Amazon Web Services — Boston, MA
Software Development Engineer Intern — Jun 2021 – Aug 2021
- Worked on AWS Boost team, used Pandas and NumPy to (1) aggregate seller data across multiple time periods and (2) develop a performance metric based on available data to rank sellers on the platform
- Performance metric was aimed to be simple to compute, resulting in linear model of different seller attributes that was a suitable ranking
- Integrated performance metric into a new page on the Boost web application with TypeScript

Cornell Cup Robotics — Ithaca, NY
Machine Learning Team Member — Oct 2020 – May 2021
- Used Haystack API from DeepSet AI to develop scalable Q/A system for R2D2-like robot

- Offloaded all heavy-compute ML systems (∼80% of compute) onto AWS to ease workload for main machine

VMware Inc. Palo Alto, CA (remote)
Data Science Intern Jun 2020 – Aug 2020
- Analyzed in-house device risk score model by comparing with ground-truth security scores across a diverse device dataset
- Constructed random forest models to determine which device features were most indicative of riskiness

SKILLS

Languages: Python, Java, OCaml, C++, C, LaTeX
Libraries/Frameworks: PyTorch, JAX (Haiku, Flax), TensorFlow, NumPy, Pandas, SKLearn, PySpark, OpenCV, Git