# Siddhant Agarwal

Google Scholar | siddhant@cs.utexas.edu | LinkedIn | agarwalsiddhant10.github.io

## EDUCATION

**The University of Austin at Texas**                                                                                       Austin, USA
*Ph.D. in Computer Science*                                                                     *August 2022 - May 2027 (expected)*
**Advisors:** Professor Amy Zhang and Professor Peter Stone

**Indian Institute of Technology Kharagpur**                                                                      Kharagpur, India
*B.Tech. (Hons.) + M.Tech. (Dual Degree) in Computer Science and Engineering*                                  *July 2017 - June 2022*
**Department Rank 1** (GPA 9.90/10.00)

## FIELDS OF INTEREST

**Unsupervised RL, GCRL, Representation Learning, Robotics, LLM Finetuning & Reasoning**

## PUBLICATIONS

(* denotes equal contribution, † denotes equal advising)

**A Unifying Perspective on Unsupervised Reinforcement Learning Algorithms**
**Siddhant Agarwal**\*, Caleb Chuck\*, Harshit Sikchi\*, Jiaheng Hu, Max Rudolph, Scott Niekum†, Peter Stone†,
Amy Zhang†
Submitted *14th International Conference on Learning Representations, 2026*
RLC Workshop on Reinforcement Learning Beyond Rewards, 2025

**Regularized Latent Dynamics Prediction is a Strong Baseline For Behavioral Foundation Models**
Pranaya Jajoo, Harshit Sikchi\*, **Siddhant Agarwal**\*, Amy Zhang, Scott Niekum, Martha White
Submitted *14th International Conference on Learning Representations, 2026*
RLC Workshop on Reinforcement Learning Beyond Rewards, 2025

**RL Zero: Direct Policy Inference from Language Without In-Domain Supervision**
Harshit Sikchi\*, **Siddhant Agarwal**\*, Pranaya Jajoo\*, Samyak Parajuli\*, Caleb Chuck\*, Max Rudolph\*, Peter Stone†,
Amy Zhang†, Scott Niekum†
*39th International Conference on Neural Information Processing Systems(NeurIPS), 2025*

**Proto Successor Measure: Representing the space of all possible solutions of Reinforcement Learning**
**Siddhant Agarwal**\*, Harshit Sikchi\*, Peter Stone†, Amy Zhang†
*42th International Conference on Machine Learning (ICML), 2025*

**Reinforcement Learning Within the Classical Robotics Stack: A Case Study in Robot Soccer**
Adam Labiosa\*, Zhihan Wang\*, **Siddhant Agarwal**, William Cong, Geethika Hemkumar, Abhinav Narayan Harish,
Benjamin Hong, Josh Kelle, Chen Li, Yuhao Li, Zisen Shao, Peter Stone, Josiah P. Hanna
*IEEE Conference on Robotics and Automation (ICRA), 2025*

**Robot Air Hockey: A Manipulation Testbed for Robot Learning with Reinforcement Learning**
Caleb Chuck\*, Carl Qi\*, Michael J. Munje\*, Shuozhe Li\*, Max Rudolph\*, Chang Shi\*, **Siddhant Agarwal**\*,
Harshit Sikchi\*, Abhinav Peri, Sarthak Dayal, Evan Kuo, Kavan Mehta, Anthony Wang, Peter Stone,
Amy Zhang, Scott Niekum,
*ICRA Workshop Manipulation Skills, 2024*

**$f$-Policy Gradients: A General Framework for Goal Conditioned RL using $f$-Divergences**
**Siddhant Agarwal**, Ishan Durugkar, Peter Stone, Amy Zhang
*37th International Conference on Neural Information Processing Systems(NeurIPS), 2023*

**Behavior Predictive Representations for Generalization in Reinforcement Learning**
**Siddhant Agarwal**, Aaron Courville, Rishabh Agarwal
*The Multi-Disciplinary Conference on Reinforcement Learning and Decision Making (RLDM), 2022,*
*NeurIPS 2021 EcoRL and DeepRL workshops*

**Reinforcement Explanation Learning**
**Siddhant Agarwal**, Owais Iqbal, Sree Aditya Buridi, Madda Manjusha, Abir Das
*NeurIPS 2021 workshop on eXplainable AI approaches for debugging and diagnosis [Oral]*

**Poisoned Classifiers are not only backdoored, they are fundamentally broken**
Mingie Sun, **Siddhant Agarwal**, Zico Kolter
*ICLR 2021 workshop on Security and Safety in Machine Learning Systems*

**Learning to Deceive Knowledge Graph Augmented Models via Targeted Perturbations**
Mrigank Raman, Aaron Chan\*, **Siddhant Agarwal**\*, Peifeng Wang, Hansen Wang, Sungchul Kim, Ryan Rossi,
Handong Zhao, Nedim Lipka, Xiang Ren
*International Conference on Learning Representations (ICLR), 2021*

**Traffic Sign Classification using Hybrid HOG-SURF Features using Convolutional Neural Networks**
Rishabh Madan\*, Deepank Agrawal\*, Shreyas Kowshik\*, Harsh Maheshwari\*, **Siddhant Agarwal**\*, Debashish
Chakraborty (\* denotes equal contribution-dice roll)
*International Conference on Pattern Recognition Applications and Methods, Prague 2019*

## EXPERIENCE

**Applied Research Scientist Intern**                                              May 2024-April 2025
*Amazon*                                                                                    *New York*

  Developed a principled exploration strategy to collect online samples to provably improve offline RL datasets by reducing the
  sub-optimality gap in the offline dataset. Integrated this algorithm to improve the Supply Chain buying policy.

**Data Engineering Intern**                                                    June 2021 - July 2021
*Goldman Sachs*                                                                              *India*

  Developed a python client to use the services of an ETL platform to quickly transfer data from pandas dataframe to a
  MemSQL store. Created RESTful server endpoints for the ETL platform and accessed them from the client.

**Research Intern**                                                          May 2020 - October 2020
*LocusLab, Carnegie Mellon University,* **Advisor: Zico Kolter**                      *Pittsburg, USA*

  Showed that *backdoored classifiers* are fundamentally broken and can be attacked by anyone rather than only the adversary.

**Research Intern**                                                            March 2020 - May 2020
*INKLab, University of Southern California,* **Advisor: Xiang Ren**                 *Los Angeles, USA*

  Trained DQN policies to heavily perturb KGs without changing the downstream performance of the different KG models.
  Was able to deceive MHGRN, GRN and RN (on CSQA and OBQA) and KGCN and RippleNet (on MovieLens and Music).

**Autonomous Ground Vehicles Research Group**                                March 2018 - March 2022
*Indian Institute of Technology Kharagpur*                                          *Kharagpur, India*

  Worked to develop a category 4 autonomous ground vehicle. Developed traffic sign classification system for Indian traffic
  signs, lane segmentation systems, planning using Frenet Serret Local Planner and Time Elastic Bands and Localization
  systems using Extended Kalman Filters.

## INVITED TALKS

**The Causal Reinforcement Learning Workshop, RL Conference**                                   2025
Learning Generalist Agents using Causal MDP Abstractions

**The International Summer School on Situational Awareness in Cognitive Technologies**          2021
with Prof. Abir Das, hands-on session with on explainable AI

## COMPETITIONS

**RoboCup Standard Platform League** *First Place in Challenge Shield, 2024*              2023, 2024
  Prepared a team of 5 Nao robots to compete in a soccer tournament which involved developing the basic motion system like
  walking and kicking along with localization to estimate the agent's position in the field. Used RL to train behavior
  strategies in the game to score goals.

**Bosch Traffic Sign Detection, Inter IIT Tech Meet** *Bronze*                                  2021
  Developed a web-based tool to add real-life data augmentations on a traffic sign dataset, train classifiers, and debug them.
  The tool helps the users to visualize the mistakes of the model and debug the model.

**Intelligent Ground Vehicles Competition, Oakland University, Michigan,** *Runners Up*   2018 & 2019
  Developed an autonomous ground vehicle for a constraint environment using simple Computer Vision and Image Processing
  techniques for Lane navigation and Obstacle avoidance, TEB local planner for planning. First team to qualify.

## TEACHING EXPERIENCES AND ORGANIZING SERVICES

**Graduate Teaching Assistant**
- ∗ CS394R Reinforcement Learning, The University of Texas at Austin — 2024
- ∗ CS343 Artificial Intelligence, The University of Texas at Austin — 2022
- ∗ CS60010 Deep Learning, IIT Kharagpur — 2022
- ∗ CS60077 Reinforcement Learning, IIT Kharagpur — 2021

**Workshop on Reinforcement Learning Beyond Rewards: Ingredients for Developing Generalist Agents**

**at The RL Conference, Edmonton, *Organizer*** — 2025

Member of the core organization team for the workshop, worked on inviting speakers, schedule, website, accepted paper list, spotlights and overall management of the workshop.

**Workshop on Reinforcement Learning Beyond Rewards at The RL Conference, Amherst, *Organizer*** — 2024

Member of the core organization team for the workshop, helped to ideate the workshop, worked on the invited speaker invitations, schedule, website, accepted paper list, spotlights and overall management of the workshop.

**Dynamic Neural Networks meet Computer Vision Workshop at CVPR, *Volunteer & Reviewer*** — 2021

Volunteered to help the organizers with the logistics of the workshop, and created the workshop posters.

**Reviewer**

ICLR 2026, NeurIPS 2025 (**Top Reviewer**), ICML 2025, ICLR 2025, RLC 2025, NeurIPS 2024, ICLR 2024, NeurIPS 2023 Goal Conditioned Reinforcement Learning workshop, NeurIPS 2023, CVPR 2021 workshop on Dynamic Neural Networks meet Computer Vision

## ACHIEVEMENTS

**Top Reviewer, NeurIPS** — 2025

**Most Creative Poster at the Texas Robotics Symposium** — 2023

**Graduate Scholarship from ECE Dept, UT Austin** — 2023

**Institute Silver Medal for securing Rank 1 in the Department of Computer Science and Engineering** — 2022

**GATE Scholarship for Teaching Assistantship** — 2021

**IUSSTF - Viterbi Scholarship - *Only ten students selected from India*** — 2020

**Class of 1970 Alumni (US) Association Prize for *best student in order of merit* among third year B.Tech.(Hons.)/B.Arch.(Hons.) courses securing highest CGPA** — 2019

**IIT Kharagpur Alumni (California Chapter) Award for being the *best student in order of merit* among third year B.Tech.(Hons.)/B.Arch.(Hons.) courses securing highest CGPA** — 2019

**Student Par Excellence Award by Computer Science & Engineering Dept** — 2018

**KVPY Fellowship Award - *Among the top 0.6% of the applicants*** — 2017

## OUTREACH

**Texas Robot Parade** — 2023, 2024, 2025

Demonstrated the Naos from our RoboCup Standard Platform League Team that plays soccer in a competitive tournament.

**Directed Reading Program, *Mentor*** — 2023

Organize a reading group on reinforcement learning for undergraduate students to get them involved in RL research