# Harshil Kotamreddy

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## Education

**University of Alberta** *Sept 2023 – Aug 2025*
*M.Sc. in Computing Science*

- GPA: 3.9/4.0
- **Coursework:** Reinforcement Learning I & II, Human-in-the-Loop RL, Modeling Strategic Behavior

**California State University, Los Angeles** *Aug 2018 – May 2023*
*B.S. in Computer Science and Mathematics*

## Experience

**Data Science Intern** *Glendale, CA*
*Disney Television Animation* *May 2022 - Aug 2022*

- Deployed an app to provide live insights on production statistics by pulling metadata from video database
- Worked with company executives and teams that required production-specific metrics
- Used Pandas and a MySQL database to process and store raw data. Used Flask for backend and React.js, D3.js for frontend. App was containerized and deployed on-prem using Docker.

**Data Science Intern** *Duarte, CA*
*City of Hope* *June 2021 - Aug 2021*

- Created and tested models to predict adverse events from drug therapy in Multiple Myeloma patients
- Cleaned raw data from the MMRF CoMMpass study using Pandas and automated model training and testing using scikit-learn and PyCaret

## Publications

**A Study of Value-Aware Eigenoptions** arXiv July 2025
***Harshil Kotamreddy***, Marlos C. Machado
Inductive Biases in Reinforcement Learning Workshop at RLC 2025

## Projects

**Critic Based Empathetic Actor Updates in Sequential Social Dilemmas** *Repo*

- Introduced an intrinsic reward function for Multi-Agent RL based on the agent's own critic network rather than external rewards received by other agents.
- Agents using the newly formulated intrinsic reward showed cooperation, avoiding a tragedy of the commons.
- Tools Used: PyTorch, CleanRL, Melting Pot

**Evaluating Reinforcement Learning Methods for Formative Feedback** *Repo*

- Demonstrated through a pilot study that policies of RL agents trained on a specific task can be used to provide useful formative feedback to humans learning the same task.
- Tools Used: Stable Baselines, Gym

**Using Transformers and RNNs to Address Loss of Plasticity in POMDPs** *Repo*

- Tested transformer-based networks (GTrXL, Linear Transformer) and RNN-based networks (LSTM, GRU) with PPO to determine whether loss of plasticity occurs in POMDPs.
- Tools Used: PyTorch, RLLib, POPGym

## Technologies

**Languages:** Python, JavaScript, Java, C++, SQL, HTML/CSS

**Technologies:** PyTorch, Stable Baselines, RLLib, Gym, Linux, Git, Docker