Adarsh Srivastava

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Objective

Looking for research roles at the intersection of machine learning and robotics. I have experience in modelling problems with deep learning, generative models, and currently conducting research on efficient robotic planning with diffusion models. Previously, I have worked in a team building & maintaining critical web scale services at PayPal.

Education

National University of Singapore   Singapore
Master of Computing, Artificial Intelligence Specialization (with Dissertation)   Aug 2022 – Dec 2023

- Relevant Courses: Neural Networks, Intelligent Robots, Uncertainty Modelling in AI, Trustworthy Machine Learning, AI Planning & Decision Making, Knowledge Discovery & Data Mining.

Birla Institute of Technology & Science, Pilani   India
B.E. (Hons.), Computer Science   Jul 2014 – Jul 2018

- Relevant Courses: Artificial Intelligence, Machine Learning, Cloud Computing.

Research experience

Collaborative, Learning, & Adaptive Robots Lab, National University of Singapore   Singapore
Graduate Student Researcher (Ongoing thesis undertaken as part of the Master's program)   Jan 2023 – Dec 2023

- Proposed the direction of `generative models in robotics`, undertook literature surveys, came up with potential research ideas, and evaluated them based on their technical merit and feasibility.

- Building baselines and benchmarks across skills for robotic task planning using diffusion models, testing applicability and comparing performance with other works.

Technical Skills

Proficient: Python, PyTorch, numpy, scikit-Learn, C++, Java, Spring, Hibernate

Familiar: OpenAI gym, ROS 2

Work Experience

Paypal Inc.   Bengaluru, India
Software Engineer II, Growth Markets Team   Jul 2018 – Aug 2021

- Led the design, development, and rollout of 3DS2.0 integration to Paypal Japan's unbranded checkout, helping the merchants reduce fraud related losses of around $500K USD a year.

- Designed & executed end-to-end changes for batch processing of card attribute (BIN) files for Rupay card scheme, enabling almost 500M Indian Rupay cardholders to transact on Paypal.

Projects

Autonomous Vehicle Navigation in Duckietown   CS5478 Intelligent Robots | NUS
Python, PyTorch, OpenAI gym, Duckietown Simulator   Mar 2023

- Trained a *Duckie* to autonomously navigate the *Duckietown* roads with a *coarse* GPS and a map to approach a goal building as closely as possible.

- Used A* for path planning, PID for turn & velocity control, imitation learning + RL to train the *Duckie* to navigate the lanes and turns, and object detection to identify the goal building.

Reddit Posts Flair Prediction.   CS5242 Neural Networks | NUS
Python, PyTorch   Nov 2022

- Trained `GRU` and `LSTM` networks on `BERT` embeddings of reddit text posts, to classify the posts into one of the possible *flairs* given a *subreddit*.

- Performed zero-shot classification using `DistilBERT` for the same task, achieving a 75% accuracy for semantically titled flairs.