Mohit Jain

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EDUCATION

University of California, San Diego — La Jolla, CA, USA | Jan 2020 - Expected
MSc. Computer Science
Teacher Assistant (TA): CSE-291 Unsupervised Learning (Winter 2022), ECE-285 Introduction to Visual Learning (Spring 2021)

Indian Institute of Technology, Roorkee — Roorkee, UK, India | July 2016 - June 2020
B.Tech. Electrical Engineering

WORK EXPERIENCE

UNIVERSITY OF CALIFORNIA, SAN DIEGO | Research Assistant — CA, USA | July 2020 – Present

- Advised by **Prof. Xiaolong Wang**.
- Conducting research on improving **simulation to real transfer and generalization in robotics**.
- Currently leading a project in which we try to learn deep 3D features of the environment and use that to train an actor-critic reinforcement learning agent to solve novel robotic manipulation tasks.

UNIVERSITY OF MARYLAND, COLLEGE PARK | Research Intern — MD, USA | June 2019 - Jan 2020

- Advised by **Prof Abhinav Shrivastava**.
- Conducted research on **understanding actions in videos** and transforming them into a target action video.
- The project was challenging since no labeled data was available for such problems. To tackle this we used **unsupervised deep learning** based methods such as Cycle-GAN.

GTS CORPORATE | Software Engineering Intern — Dubai, UAE | Nov 2018 – Jan 2019

- Developed a Web Portal using **Django** to be used by the Sales Team at GTS Corporate.
- The designed web portal was modeled to have a simple interface that can allow the sales team to log their daily activities, meetings, and project deals quick and succinctly.

PUBLICATIONS

LOOK CLOSER: BRIDGING EGOCENTRIC AND THIRD-PERSON VIEWS WITH TRANSFORMERS FOR ROBOTIC MANIPULATION
R. Jangir, N. Hansen, S. Ghosal, **M. Jain**, and X. Wang

- Accepted for publication in **RA-L 2022**.
- Accepted for **ICRA 2022**.
- We propose a method to fuse information from a 3rd person and an ego-centric camera attached to the robot's arm that can improve performance and **sim2real transfer for robotic manipulation** tasks.

PROJECTS

INFOGAN-PYTORCH — Python, PyTorch, Computer Vision, Generative Modeling
246 Stars on GitHub
Using PyTorch reproduced results from the paper, InfoGAN: Interpretable Representation Learning by Information Maximizing Generative Adversarial Nets. I trained my model on the MNIST, FashionMNIST, SVHN, and the CelebA datasets. The model is able to learn factors of variations across the data (such as stroke thickness for MNIST handwritten digits) without any supervision.

GENERATING-DEVANAGARI-USING-DRAW — Python, PyTorch, Computer Vision
89 Stars on GitHub
Employed the DRAW model based on the paper DRAW:A Recurrent Neural Network For Image Generation to create a Generative Model that can be used to create characters from the Devnagari Script. The model generates handwritten devnagari characters by gradually "drawing" across the canvas as a human does.

CONDITIONAL-ANIMEGAN

Python, PyTorch, Art, Computer Vision, Generative Models

79 Stars on GitHub

Developed a model that can generate Anime faces conditioned on eye and hair color. The model uses deep covolutional layers and learns using the generative adversarial network training method.

DCGAN-PYTORCH

Python, PyTorch, Computer Vision Generative Models

58 Stars on GitHub

Using PyTorch reproduced the results of the paper, Unsupervised Representation Learning with Deep Convolutional Generative Adversarial Networks on the CelebA dataset.

LOCATION-ALARM

Java, Android

Android app that can be used to set an alarm based on GPS location. When the user comes near the location the alarm will go off signaling to the user that they have arrived. The idea behind the project was that in India public transport is often unreliable and not on time. If a passenger wanted to nap during the journey setting an alarm based on destination is better idea than estimated arrival time. This app was created as part of a **team of 3** in which I was **tech lead** for the **Microsoft Code.fun.do** 2017 Hackathon.

SKILLS

Languages: Python, C++, Java, C, SQL, HTML/CSS, LaTeX
Machine Learning: PyTorch, Tensorflow, Numpy, Matplotlib, Scikit-Learn, Scipy