

# PRAGATI MESHRAM

An undergraduate, Machine Learning Enthusiast

IIT Bombay, India

## + Profile – About me

- Name : Pragati Meshram
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I am an undergraduate student of Indian Institute of Technology, Powai, Mumbai, pursuing Electrical Engineering and Exploring Machine Learning techniques.

Currently, working with Prof. Biplab Banerjee on the topic Multi-Source unsupervised Openset Domain Adaptation(work submitted in ECCV2020). Also researching in the field of Reinforcement Learning for the Satellite Routing as a part of Internship at Aalborg university, Denmark.

## + Resume – Personal Info

### Major Technical Projects

#### Satellite Routing

[May'20]

*Prof. Beatriz Soret, Aalborg University Denmark*

- Simulated and investigated the performance of Satellite routing with two different methods i. e. **Reinforcement Learning** method and **Dijkstra** Algorithm in terms of Routing Latency.
- Modelled the arrival of packets to follow a **Poisson process** and applied the concept of **buffering**.
- Analysed and compared the results based on Routing Complexity, End to end packet latency, Average delay.

#### Multi-Source Open-set Deep Adversarial Domain Adaptation

[March '20]

*ECCV Submission*

- Proposed a novel learning setting for multi-source domain adaptation where the target-domain may contain open-set classes.
- Aligned different source domains among themselves such that they fall in **same feature space**.
- Designed a pseudo-classifier using Adversarial approach so that it's known classes have the same feature space as source-domain and **maximize the gap** between known and unknown samples of target domains.

#### Open-set Modality Distillation

[June'20]

*Prof. Biplab Banerjee*

- Dealt with the problem of modality distillation for the purpose of remote sensing (RS) image classification by exploring the deep generative models.
- Proposed a novel adversarial training driven **hallucination architecture** capable of learning discriminative feature representations corresponding to the missing modalities from the available ones during the test time.
- Classified unknown modality with good accuracy successfully and submitting journal to **ISPRS**

#### Visual Explanations from Deep Networks

[Spring '19]

*Prof. Biplab Banerjee, Centre of Studies in Resources Engineering*

- Modified **Gradient Descent algorithm** to generate more robust features & better visualizations
- Implemented Grad-CAM on UC Merced dataset to visualise the parts in the image that caused the activations in particular class of model using the gradients of target concept
- Utilized VGG16 **pre-trained model**, trained on Imagenet dataset to extract important features and designed dense layer to inculcate output of UC Merced dataset
- Features learned by network were clearly observed during the experiment