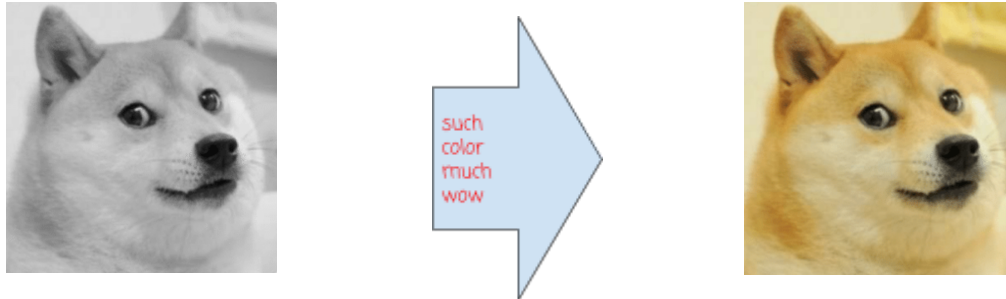




# IITG.AI MLRW Hackathon

## Problem statement

Your task is to convert images in grayscale to color using a neural network.



(Image provided only for representative purpose does not represent anything about actual private test dataset)

You are free to use any model(CNN, GAN), framework(PyTorch, tf, Keras), and pipeline of your choice. Models same as ones in existing literature would be disqualified.

Since you can easily convert any color image to grayscale you are free to use any image dataset/datasets available online. Please mention the datasets you used in the training notebook.

## Evaluation

To prevent plagiarism and motivate innovation, we will evaluate submissions based on multiple criteria.

1. Innovation - We will give significant importance to this. Any innovation in model design, preprocessing, dataset, color spaces, post-processing would be given weightage.
2. Model size - We will prefer smaller models with good generalization.  
Note: In case we find sufficient innovation, it would outweigh the model size criterion
3. Score - For a quantitative evaluation, we would test the model on some private datasets. The images would **NOT** contain unrealistic/artificial settings (Clothing, vehicles, etc) whose colorization cannot be determined from grayscale images.

For scoring, we will use **L2(RMSE) loss in [LAB colorspace](#)**

We encourage a research-based approach to the problem over a naive fit-and-predict approach. Document your approach and reason any design decisions you take in the training notebook. This is important and any innovation you wish to show would be judged based on this.

# Weightage

Innovation : 50%

Model size: 20%

Score on the private datasets: 30%

## Submission

Your submission folder which is to be uploaded on google drive should be structured as such.  
Don't forget to make the folder public.

*Folder name - name1\_name2*

1. train.ipynb

This file contains the code where you train the model, perform data augmentation etc  
Please ensure the outputs are visible in the notebook.

2. test.ipynb

This file will be used for evaluation against the private test dataset. It should strictly be of the signature given here: [sample test file](#)  
Since the private dataset may contain images of any size you are required to resize it in the evaluation function.

3. Model weights

Any model weights/files you are required to import for testing

Please do not include the training dataset in your submission folder

Fill this form for submitting the drive link:

[https://docs.google.com/forms/d/e/1FAIpQLSfO3UNsmsMd0SK3FArZCTiwLI4qc6aqq\\_e6GS80scbXG0BxZQ/viewform](https://docs.google.com/forms/d/e/1FAIpQLSfO3UNsmsMd0SK3FArZCTiwLI4qc6aqq_e6GS80scbXG0BxZQ/viewform)

## Rules

1. Any hint of plagiarism will lead to disqualification.
2. Please ensure that your submission strictly follows the format given .
3. Do not exceed colab memory limits, it is recommended you train your models on [colab](#). Ensure that your model fits in 12 GB of RAM.
4. The test images can be of any size(width, height). It is your responsibility to resize them to your model requirement in the test notebook.
5. If you are using transfer learning, mention which model you import the weights from, you are not allowed to do transfer learning from an existing colorization model.
6. Only 1 team member needs to fill the submission form.
7. **The deadline is 21st Feb 2021 11:59 PM**

## Queries

In case of any queries/issues regarding the problem statement, you may contact the below

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