

Colourisation of grayscale images

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Introduction

- Image colorization is the process of adding chrominance values to an input grayscale image.
- Among the various colorization techniques, autoencoder based colorization is selected.
- Autoencoder based colorization method is a fully automatic technique which does not require any human assistance.
- It exploits machine learning concept in which the computers find the solution by learning the datasets and arriving at a conclusion.
- Image colorization is applicable in many areas such as colorization of old black and white photos, old movies and scientific images.

Objectives and Dataset

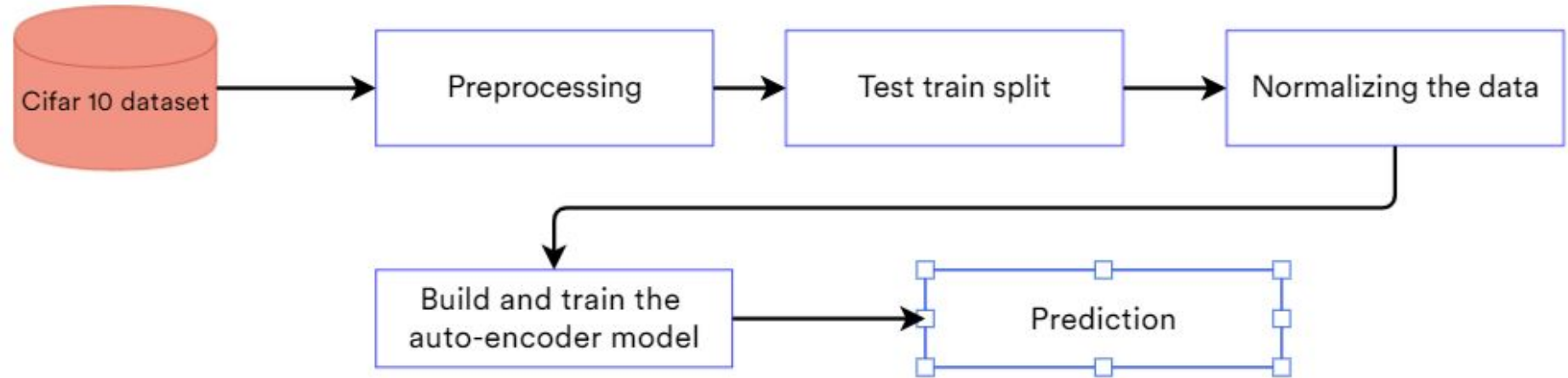
Objectives:

- To colorise the grayscale images.
- Use Auto encoders for colorisation.

Dataset:

- Cifar 10 data set - a dataset of 50,000 32x32 color training images and 10,000 test images.

Methodology Diagram



Performance

Accuracy:

```
Epoch 00030: val_loss did not improve from 0.00921  
1563/1563 [=====] - 71s 46ms/step - loss: 0.0050 - acc: 0.6401  
<keras.callbacks.History at 0x7ff2f0157050>
```

Future Scope:

Usage of GAN for colourisation of images.