

Grey Coloured Anime Character

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Abstract-This paper attempts in discovering the scope of creating animated characters. Animation offers the individual the ability to adapt to the lifestyle of a person without automobile technology and expertise. After Generative Adversarial Network (GAN) got introduced, it then led to various studies related to the automatic era of facial images. There exists a couple of possibilities to apply the GAN model to the trouble to generate face shots of anime, but neither of the present artworks gives a favourable outcome. The work tries to investigate the preparing of GAN styles specific on anime facial picture dataset. It includes statistical and model aspects of the problems, by assembling cleaner and more well-suited dataset.

To overcome the problem of resulting in low quality outputs, it is best to provide dataset having high resolution, applying a machine learning model. The use of high-resolution quality dataset may produce accurate results.

Keywords: Artificial Intelligence, Machine Learning, Generative Adversarial Networks

I. INTRODUCTION

Machine Learning is an area of Artificial Intelligence where expected output values are generated from given input values with a machine mastering algorithms and model. Machine learning has been differentiated as supervised learning, unsupervised learning, deep learning.

The Generative Adversarial Network (GAN), a machine learning model wherein two neural network compares result with each other to be more accurate in their predictions. This model is the most adaptive model for delivering the creation, since the scope of animated series and movies have a greater reach nowadays.

Still, results from these works are obscured and misshaped, it probably test to produce industry-based facial images for anime characters. This report proposes a model that produce anime faces at top caliber. Our commitment can be portrayed as three-crease: A clean dataset, a reasonable GAN model, and our way to deal with train a GAN.

A. Requirements

- Jupyter Notebook
- Dataset/ kaggle
- The Generative Adversarial Network (GAN) Model

II. LITERATURE REVIEW

[1] With quantitative analysis and case studies we show that our efforts lead to a strong and adaptive model. furthermore, to assist people with anime man or woman design, we construct a website¹ with our pre-educated version available on-line, which makes the version effortlessly accessible to public.

[2] Generative modeling is an unsupervised getting to know task in gadget studying that entails robotically discovering and learning the regularities or styles in input facts in such a way that the model may be used to generate or output new examples that plausibly could have been drawn from the authentic dataset.

III. METHODOLOGY

In this work, the anime creation using Jupyter Notebook consists of collection of various python modules and GAN modelling, along with the features of data analyst interface for being compatible and handy. It is used in fields such as style transfer, image-to-image translation etc.

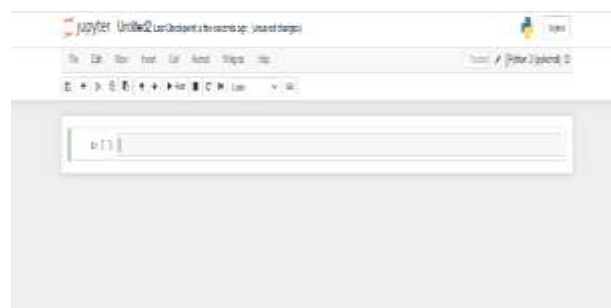


Fig. 1

Commonly used modules are:

- tensorflow
- imageio
- numpy
- glob, and so on.

IV. DATASET

The dataset is collection of data which in turn is used in forming various animated characters. Each one of the image appears as of its size and colours. It should be in jpg file type. It's been taken from Kaggle.



Fig. 2

The count of dataset is large. They are created with noticeable styles. Even then it's categorized as character images and so they are absolutely apt for pursuing the target.

V. IMPLEMENTATION

Download and install python version 3.7+ in the local computer.

Open the following directory, C->users->user->appdata->local->program->python->script, to install jupyter notebook.

Take command prompt and type in the required command for opening jupyter notebook.



Fig. 3

The interface displays all the files. To create new file, click new and then python3.



Fig.4

Import the modules-tensorflow , cv2, glob, imageio, numpy, time

Then import the dataset by storing the dictionary to a variable named directory.

For ensuring the files are imported, print any single file.



Fig.5

Declare a variable for storing images in the file.

Then circulate through the files in a directory.

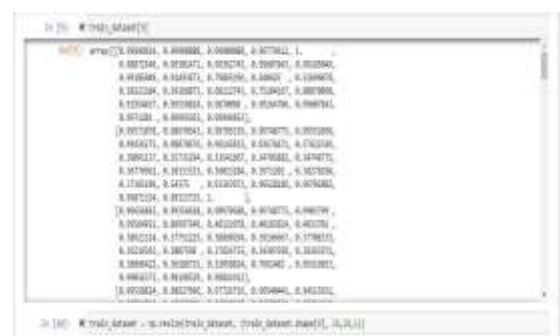


Fig 6

Print the train dataset.

In this step, generator loss and discriminator loss are calculated.

And hence the data is trained.

[illegible]

Fig. 7

Create generator model.

[illegible]

Fig. 8

Generator in turn creates a noise to make the discriminator gets a false thought that it's real.

[illegible]

Fig. 9

Create discriminator model.

When it is trained, it separates the real and fake information by replacing the form generator.

Then it creates a generated sample image.

Here cross entropy is calculated.

[illegible]

Fig. 10

[illegible]

Fig.11

The data gets trained. The discriminator results in producing real output and fake output.

[illegible]

Fig.12

The function is defined and called for result, which is hence produced from test data and epoch.

[illegible]

Fig.13

Hence the final result gets created.

VI. RESULT



The result is black and white shaded anime characters developed using information well-provided.

VII. CONCLUSION

The increasing scope for animated entertainments made the possibilities of extending the GAN representation. This comes across creating automatic grey scale anime by combining a well-ordered dataset and different model approaches. The various resolution images are being stored to carry out the task. Even though the high-quality images are produced as output, there are still issues. The dataset usually won't be of high decision which can likely result in blurred and coffee-satisfactory images. Each image is inserted to get grey scale high-resolution quality image.

VIII. REFERENCES

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