**A Realistic Image Generation of Face From Text Description Using the Fully Trained Generative Adversarial Networks**

**Abstract:**

Text to face generation is a sub-domain of text to image synthesis. It has a huge impact on new research areas along with the wide range of applications in the public safety domain. Due to the lack of dataset, the research work focused on the text to face generation is very limited. Most of the work for text to face generation until now is based on the partially trained generative adversarial networks, in which the pre-trained text encoder has been used to extract the semantic features of the input sentence. Later, these semantic features have been utilized to train the image decoder. In this research work, we propose a fully trained generative adversarial network to generate realistic and natural images. The proposed work trained the text encoder as well as the image decoder at the same time to generate more accurate and ef\_cient results. In addition to the proposed methodology, another contribution is to generate the dataset by the amalgamation of LFW, CelebA and locally prepared dataset. The dataset has also been labeled according to our de\_ned classes. Through performing different kinds of experiments, it has been proved that our proposed fully trained GAN outperformed by generating good quality images by the input sentence. Moreover, the visual results have also strengthened our experiments by generating the face images according to the given query.

**EXISTING SYSTEM:**

A part of text to image synthesis is text to face generation. Along with the broad range of applications in the field of public safety, it has a significant impact on new research areas. The study on text to face generation is fairly limited as a result of the dearth of datasets. The most of the text's work the pre-trained text encoder has been utilised to extract the semantic properties of the input sentence, face generation up till now has been based on the partially trained generative adversarial networks. The image decoder has since been trained using these semantic features.

**Disadvantage:**

2. Less Accuracy

**PROPOSED SYSTEM:**

GAN algorithm was used to decode images and BI-LSTM (Bidirectional-Long Short Term Memory) was used to encode TEXT. Both models will be combine to decode image based on input text sentences. BI-LSTM will map each input sentence to related image and then get trained to generate image decoding model. Input TEXT will be converted into VECTOR and this vector will be input to BI-LSTM model to encode vector and this vector will be input to GAN to decode image. In this paper author propose a fullytrained generative adversarial network to generate realistic and natural images. The proposed work trainedthe text encoder as well as the image decoder at the same time to generate more accurate and efficient results.

**Advantage:**

1. More Accuracy.

**SYSTEM REQUIREMENTS**

**HARDWARE REQUIREMENTS:**

# Processor - Intel i3(min)

* Speed - 1.1 GHz
* RAM - 4GB(min)
* Hard Disk - 500 GB
* Key Board - Standard Windows Keyboard
* Mouse - Two or Three Button Mouse
* Monitor - SVGA

**SOFTWARE REQUIREMENTS:**

* Operating System - Windows10(min)
* Programming Language - Python