IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 11, May 2023

Text To Image Synthesis using Generative Adversarial Networks (GAN)

Aniket Kanare[1], Siddhant Kadam[2], Shivam Koshta[3], Prakhar Dadheech[4], Prof. Asmeeta Mali[5]
Students, Department of Engineering[1,2,3,4,]
Assistant Professor, Department of Engineering[5]
Dr. D. Y. Patil Institute of Engineering & Technology, Pimpri, Pune, Maharashtra, India

Abstract: *The project aims to provide a system to synthesize text into a newly built image with the help of Deep Learning algorithms. The process of creating images automatically from supplied text is known as text to image synthesis. However, current AI systems are still far from being able to automatically create realistic images from text, which would be both interesting and useful. To learn discriminative text feature representations, however, recently, general, and potent recurrent neural network designs have been created. For generating images, GAN (Generative Adversarial Network) models are used. Recent progress has been made using Generative Adversarial Networks (GAN). A very good example of deep learning is the transformation of text into images. Deep convolutional generative adversarial networks (GANs) have started to produce incredibly captivating images of particular categories, such faces, album covers, and interiors of rooms. To bridge these developments in text and image modelling, efficiently converting visual notions from characters to pixels, we create a revolutionary deep architecture and GAN formulation in this study*

Keywords: Artificial Intelligence (AI), Generative Adversarial Network (GAN), Machine Learning (ML), Natural Language Tokenizer (NLTK), Python Pickle, Tensor Flow, and Tensor Layer

REFERENCES

[1] Ankit Yadav, Dinesh Kumar Vishwakarma, Recent Developments in Generative Adversarial Networks: A Review (Workshop Paper), 2020.
[2] Gregor, K., Danihelka, I., Graves, A., Rezende, D., and Wierstra, D. Draw: A recurrent neural network for image generation. In ICML, 2015.
[3] Han Zhang, Tao Xu, Hongsheng Li, Shaoting Zhang, StackGAN: Text to Photorealistic Image Synthesis with Stacked Generative Adversarial Networks" in Rutgers University and Lehigh University August 2017.
[4] Scott Reed, Zeynep Akata, Xinchen Yan, LajanugenLogeswaran, Bernt Schiele, HonglakLee, Generative Adversarial Text to Image Synthesis" in University of Michigan and Max Planc Institute for Informatics June 2016.
[5]Stian Bodnar, Jon Shapiro, Text to Image Synthesis Using Generative Adversarial Networks" in The University of Manchester May 2018.
[6]Tao Xu, Pengchuan Zhang, QiuyuanHuang , Han Zhang, Zhe Gan, Xiaolei Huang, Xiaodong He: Fine- grained text to image generation with attentional generative adversarial networks. CoRR, abs/1711.10485, 2017.
[7] Mehdi Mirza, Simon Osindero, Conditional Generative Adversarial Nets, 2014.