ALFI MASHAB MOSTAK <alfi.mashab.mostak@g.bracu.ac.bd>

IEEE Applied Imagery Pattern Recognition Workshop 2021 : Submission (48) has been created.

9 messages

Microsoft CMT <email@msr-cmt.org> Mon, Aug 30, 2021 at 10:02 PM
Reply-To: Microsoft CMT - Do Not Reply <noreply@msr-cmt.org>
To: alfi.mashab.mostak@g.bracu.ac.bd

Hello,

The following submission has been created.

Track Name: SingleTrack

Paper ID: 48

Paper Title: Photo-realistic Image Synthesis Conditioned on Text Descriptions using Stacked Generative Adversarial Networks (StackGAN)

Abstract:
The problem of generating high-quality images from text descriptions is a difficult one in computer vision, yet it has many applications. However, the samples that are generated by the existing text-to-image models fail to add details and vivid object parts. Moreover, it is very difficult to train GAN to generate high-resolution photo-realistic images from text descriptions. Training instability makes it even harder to generate high-resolution images using GAN models. Our research proposes a 256 x 256 Photo-realistic Image Synthesis using Stacked Generative Adversarial Network (GAN). We decompose the hard problem in two stages through a sketch refinement process. The Stage-I generator generates a low-resolution image by drawing the object's rough shape and basic colors from the provided text description and painting the background with a random noise vector. The Stage-II generator, which is based on Stage-I results and text descriptions as inputs, corrects faults and adds attractive features to them, resulting in a more realistic high-resolution image. Also, to improve the stability of training conditional-GAN this paper introduces a novel Conditioning Augmentation technique that encourages smoothness in the latent conditioning manifold. The experiments done and comparing with the state-of-the-arts on benchmark datasets concludes that our proposed model achieves significant improvements on generating high-quality Photo-realistic images.

Created on: Mon, 30 Aug 2021 16:02:30 GMT

Last Modified: Mon, 30 Aug 2021 16:02:30 GMT

Authors:
- alfi.mashab.mostak@g.bracu.ac.bd (Primary)
- shadab.iqbal@g.bracu.ac.bd
- nuhash.ahmed.chowdhury@g.bracu.ac.bd
- robin.molla@g.bracu.ac.bd
- annajiat@bracu.ac.bd
- shihab.sharar@g.bracu.ac.bd

Primary Subject Area: deep neural networks - neural network theory

Secondary Subject Areas: pattern recognition - methods

Submission Files: 424_abstract_IEEE.pdf (277 Kb, Mon, 30 Aug 2021 15:59:57 GMT)

Submission Questions Response: Not Entered

Thanks,
CMT team.