FastGAN: Faster and Stabilized GAN

Authors:
Mauro Ficorella 1941639
Martina Turbessi 1944497
Valentina Sisti 1952657

Sapienza
May 2021

ABSTRACT

The main aim of FastGAN is to allow users with limited computing budget and resources to train a GAN. Moreover it eliminates the requirement of a big dataset for training. These are big advantages since traditional GANs required a lot of GPU computational power (i.e. one or more server-level GPUs with at least 16 GB of vRAM in StyleGAN2) and a large number of images for training. This implementation allowed to train from scratch on a NVIDIA GeForce RTX 2070 SUPER and a NVIDIA GeForce GTX 1050-Ti, obtaining good results also on a small dataset. The structure of FastGAN comprehends a Skip-Layer channel-wise Excitation (SLE) module and a self-supervised Discriminator trained as a feature-encoder.
We will show, through various experiments, that this GAN outperforms StyleGAN2 in terms of computational requirements and training time.

1 Introduction

2 Method

NOME

NOME

NOME

NOME

NOME

NOME

NOME