TECHNISCHE UNIVERSITÄT DRESDEN

Fakultät für Elektro- und Informationstechnik, Professur für Grundlagen der Elektrotechnik und Elektronik

FliK Modul 2020

GAN and RNN

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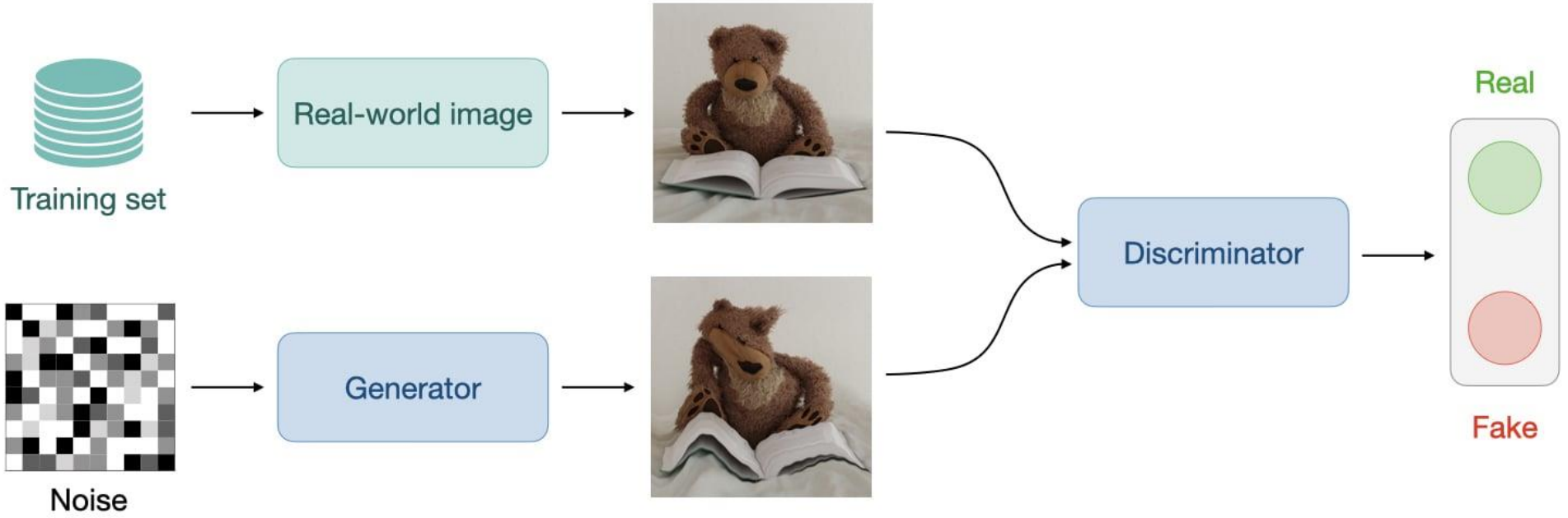
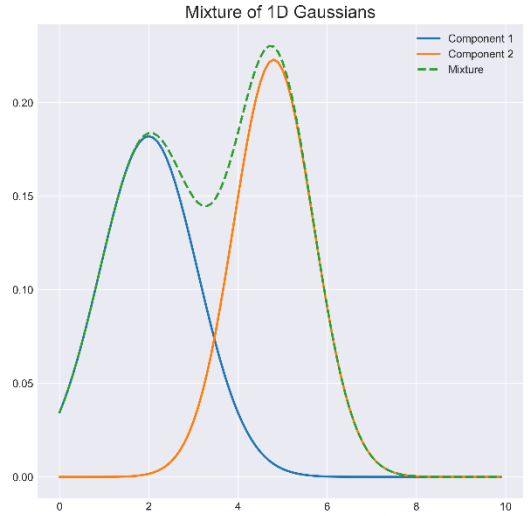
Generative Adversial Networks (GAN)

Like VAE a Generative Adversial Network is a **generative learning** approach, hence you try to model a **distribution** (instead of a probability) as close as possible to your data to sample from it. Training a GAN is **completly different** from what we have seen so far.



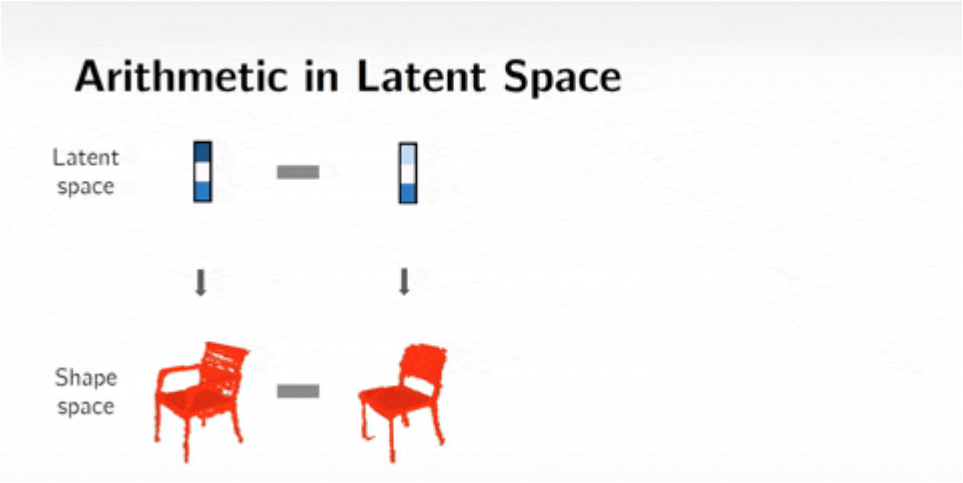
Generative Adversial Networks (GAN)



Since GAN models a **distribution**, we can use this to do **latent space arithmetics** (similar of adding gausian distributions) and sample from this new continuous space, with some funny results.

Generative Adversial Networks (GAN)

We can also do **style transfer**!



Style transfer with Ron Swanson (Deepfakes)

12. Exercise

Let‘s train our first GAN!

Recurrent Neural Networks

TBD

BidirectionalRNN

TBD

Sequence to Sequence Model

TBD

Attention

TBD

Transformer

Attention is all you need

TBD

13. Exercise

Let‘s train our first RNN on IMDB!