seungwonpark / melgan

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MelGAN vocoder (compatible with NVIDIA/tacotron2)

swpark.me/melgan/

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MelGAN

Unofficial PyTorch implementation of MelGAN vocoder

Key Features

- MelGAN is lighter, faster, and better at generalizing to unseen sp than WaveGlow.
- This repository use identical mel-spectrogram function from

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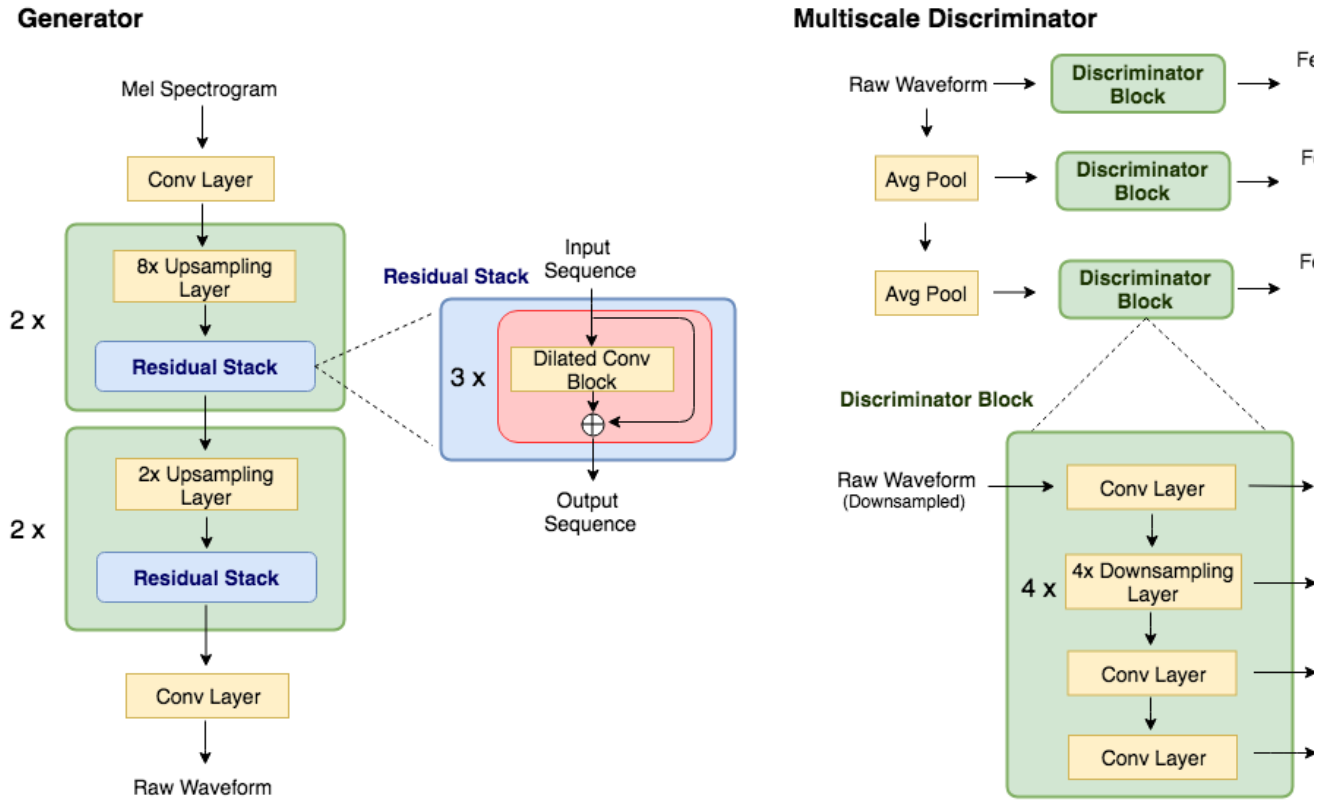
- Pretrained model on LJSpeech-1.1 via PyTorch Hub.



Prerequisites

Tested on Python 3.6

```
pip install -r requirements.txt
```

Prepare Dataset

- Download dataset for training. This can be any wav files with sam 22050Hz. (e.g. LJSpeech was used in paper)
- preprocess: `python preprocess.py -c config/default.yaml -d [d root path]`
- Edit configuration `yaml` file

Train & Tensorboard

- `python trainer.py -c [config yaml file] -n [name of the run]`

    - `cp config/default.yaml config/config.yaml` and then edit `config.yaml`
    - Write down the root path of train/validation files to 2nd/3rd
    - Each path should contain pairs of `*.wav` with corresponding (preprocessed) `*.mel` file.
    - The data loader parses list of files within the path recursively
- `tensorboard --logdir logs/`

Pretrained model

Try with Google Colab: TODO

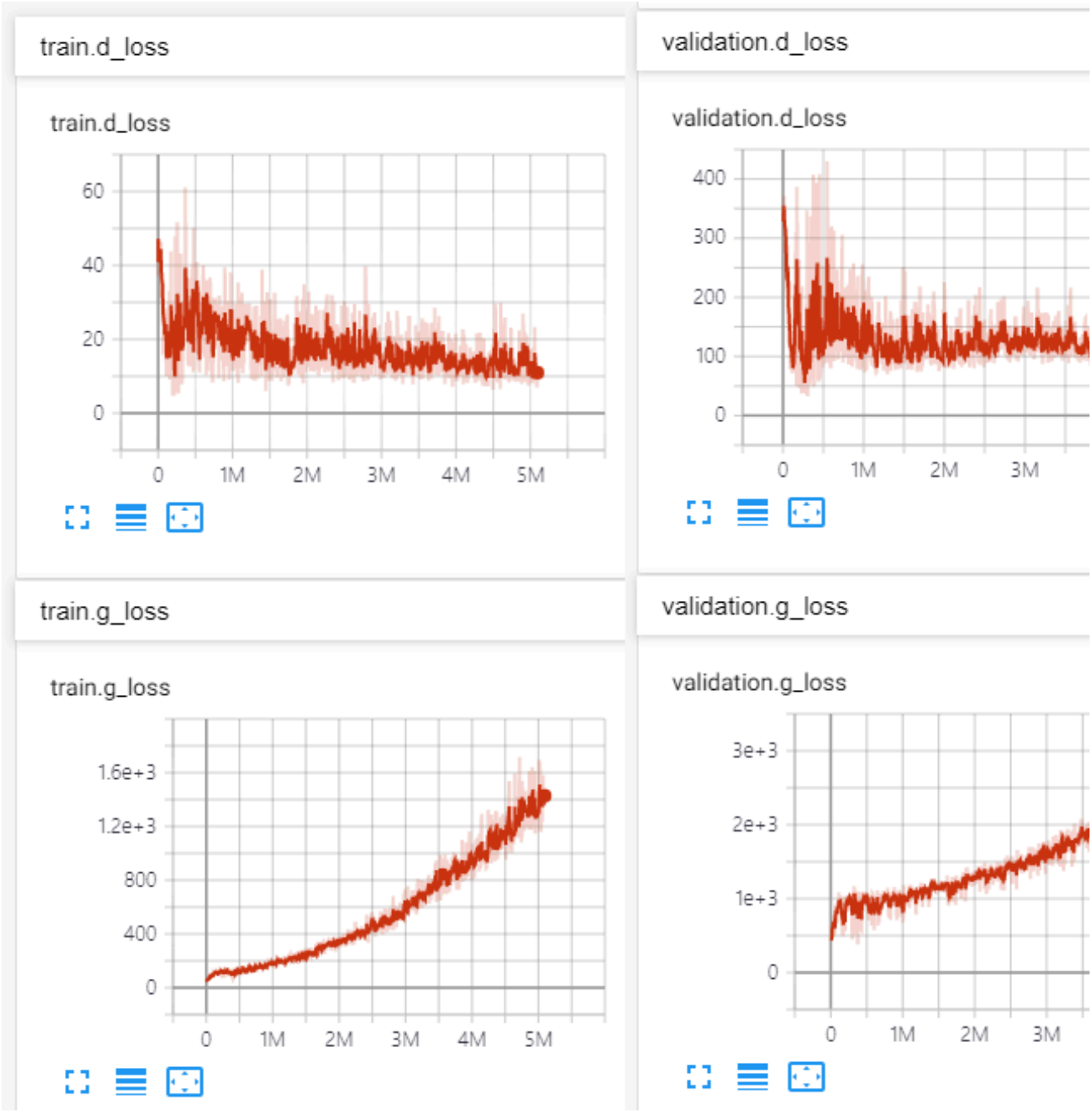
```
import torch
vocoder = torch.hub.load('seungwonpark/melgan', 'melgan')
vocoder.eval()
mel = torch.randn(1, 80, 234) # use your own mel-spectrogram her

if torch.cuda.is_available():
    vocoder = vocoder.cuda()
    mel = mel.cuda()

with torch.no_grad():
    audio = vocoder.inference(mel)
```

Inference

- `python inference.py -p [checkpoint path] -i [input mel path]`

Results

See audio samples at: http://swpark.me/melgan/. Model was trained a GPU for 14 days using LJSpeech-1.1.



Implementation Authors

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- utils/stft.py by Prem Seetharaman (BSD 3-Clause License)
- datasets/mel2samp.py from https://github.com/NVIDIA/waveglo Clause License)
- utils/hparams.py from https://github.com/HarryVolek/PyTorch_Speaker_Verification (No specified)

Useful resources

- How to Train a GAN? Tips and tricks to make GANs work by Soun Chintala
- Official MelGAN implementation by original authors
- Reproduction of MelGAN - NeurIPS 2019 Reproducibility Challen (Ablation Track) by Yifei Zhao, Yichao Yang, and Yang Gao
  - "replacing the average pooling layer with max pooling layer replacing reflection padding with replication padding improv performance significantly, while combining them produces w

Releases 3

fixed noise of unvoiced segment (fix #30, #17) Latest
on Dec 2, 2019

+ 2 releases

Packages

No packages published

Contributors 2

seungwonpark Seung-won Park

benwu95

Deployments 16

github-pages 5 years ago

+ 15 deployments

Languages

- **Python** 100.0%