

```

!pip install awscli;
!pip install einops;
!pip install museval;
!pip install fast_bss_eval;
!pip install torchsummaryX;
!pip install torch_audiomentations;

-----
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Collecting torch_audiomentations
  Downloading torch_audiomentations-0.11.0-py3-none-any.whl (47 kB)
----- 47.9/47.9 kB 4.2 MB/s eta 0:00:00
Collecting julius<0.3,>=0.2.3 (from torch_audiomentations)
  Downloading julius-0.2.7.tar.gz (59 kB)
----- 59.6/59.6 kB 7.1 MB/s eta 0:00:00
  Preparing metadata (setup.py) ... done
Requirement already satisfied: librosa>=0.6.0 in /usr/local/lib/python3.10/dist-packages (from torch_audiomentations)
Requirement already satisfied: torch>=1.7.0 in /usr/local/lib/python3.10/dist-packages (from torch_audiomentations)
Requirement already satisfied: torchaudio>=0.7.0 in /usr/local/lib/python3.10/dist-packages (from torch_audiomentations)
Collecting torch-pitch-shift>=1.2.2 (from torch_audiomentations)
  Downloading torch_pitch_shift-1.2.4-py3-none-any.whl (4.9 kB)
Requirement already satisfied: audioread>=2.1.9 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: numpy!=1.22.0,!1.22.1,!1.22.2,>=1.20.3 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: scipy>=1.2.0 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: scikit-learn>=0.20.0 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: joblib>=0.14 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: decorator>=4.3.0 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: numba>=0.51.0 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: soundfile>=0.12.1 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: pooch<1.7,>=1.0 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: soxr>=0.3.2 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: typing-extensions>=4.1.1 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: lazy-loader>=0.1 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: msgpack>=1.0 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: sympy in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: networkx in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: Jinja2 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: triton==2.0.0 in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: cmake in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Requirement already satisfied: lit in /usr/local/lib/python3.10/dist-packages (from torch_pitch_shift)
Collecting primePy>=1.3 (from torch_pitch-shift>=1.2.2->torch_audiomentations)
  Downloading primePy-1.3-py3-none-any.whl (4.0 kB)
Requirement already satisfied: packaging>=21.3 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: llvmlite<0.40,>=0.39.0dev0 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: setuptools in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: appdirs>=1.3.0 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: requests>=2.19.0 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: threadpoolctl>=2.0.0 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: cffi>=1.0 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: mpmath>=0.19 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: pycparser in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: charset-normalizer~=2.0.0 in /usr/local/lib/python3.10/dist-packages (from primePy)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from primePy)
Building wheels for collected packages: julius
  Building wheel for julius (setup.py) ... done
  Created wheel for julius: filename=julius-0.2.7-py3-none-any.whl size=21878 sha256=73052046
  Stored in directory: /root/.cache/pip/wheels/b9/b2/05/f883527ffcb7f2ead5438a2c23439aa0c881e
Successfully built julius
Installing collected packages: primePy, torch-pitch-shift, julius, torch_audiomentations
Successfully installed julius-0.2.7 primePy-1.3 torch-pitch-shift-1.2.4 torch_audiomentations-0.11.0

```

```

!aws configure set aws_access_key_id AKIAT4LS2WDT0ZD4ZD6K
!aws configure set aws_secret_access_key KAAVEmlRW8q2UDkR6glo7v+FRVkbhqN/ud7N10JE
!aws configure set default.region us-east-2

```

mode ***

```

101
102
103 )
104
105 def f
106 x
107 x
108 x
109 r
110
111
112 class Masl
113 def _
114 si
115 se
116 se
117 se
118 se
119
120 def f
121 #
122 B
123 Q
124 si
125 f
126
127
128
129
130
131 #
132 #
133
134 si
135 r
136

```

```
!aws s3 cp s3://mymusicdatasets/chroma_attention_checkpoint_validation_loss.pt ./
!aws s3 cp s3://mymusicdatasets/chroma_attention_checkpoint_latest.pt ./
!aws s3 cp s3://mymusicdatasets/attentioncheckpoint_nosdr_latest.pt ./
!aws s3 cp s3://mymusicdatasets/chroma_fc_group_checkpoint_validation_loss.pt ./
!aws s3 cp s3://mymusicdatasets/chroma_fc_group_checkpoint_latest.pt ./
!aws s3 cp s3://mymusicdatasets/checkpt_latest.pt ./
!aws s3 cp s3://mymusicdatasets/checkpt_latest_validation_loss.pt ./
```

```
download: s3://mymusicdatasets/chroma_attention_checkpoint_validation_loss.pt to ./chroma_attenti
download: s3://mymusicdatasets/chroma_attention_checkpoint_latest.pt to ./chroma_attention_checkp
download: s3://mymusicdatasets/attentioncheckpoint_nosdr_latest.pt to ./attentioncheckpoint_nosdr
download: s3://mymusicdatasets/chroma_fc_group_checkpoint_validation_loss.pt to ./chroma_fc_grou
download: s3://mymusicdatasets/chroma_fc_group_checkpoint_latest.pt to ./chroma_fc_group_checkpoi
download: s3://mymusicdatasets/checkpt_latest.pt to ./checkpt_latest.pt
fatal error: An error occurred (404) when calling the HeadObject operation: Key "checkpt_latest_v
```

```
!aws s3 cp s3://mymusicdatasets/musdb18hq.zip ./
```

```
download: s3://mymusicdatasets/musdb18hq.zip to ./musdb18hq.zip
```

```
!unzip musdb18hq.zip
```

```

inflating: test/Secretariat - Over The Top/other.wav
inflating: test/Secretariat - Over The Top/vocals.wav
inflating: test/Secretariat - Over The Top/mixture.wav
creating: test/James Elder & Mark M Thompson - The English Actor/
inflating: test/James Elder & Mark M Thompson - The English Actor/bass.wav
inflating: test/James Elder & Mark M Thompson - The English Actor/drums.wav
inflating: test/James Elder & Mark M Thompson - The English Actor/other.wav
inflating: test/James Elder & Mark M Thompson - The English Actor/vocals.wav
inflating: test/James Elder & Mark M Thompson - The English Actor/mixture.wav

```

```

from trainer import hparams_chroma, load_model
from model import ChromaModel
import torch
import os
import museval
import torchaudio
import fast_bss_eval
from IPython.display import Audio
import tqdm.notebook as tq
import numpy as np

def zero_pad(signal, segment_samples = 44100 * 6):
    # assumption: even number of samples in a segment
    hop_length = segment_samples // 2
    if signal.shape[1] % hop_length != 0:
        num_zeros = hop_length - (signal.shape[1] % hop_length)
        zero_pad = torch.zeros(signal.shape[0], num_zeros, device = signal.device)
        signal = torch.cat([signal, zero_pad], dim = 1)
    return signal

def split_to_segments(signal, segment_samples = 44100 * 6, overlap = 0.5):
    # input shape: (#channel, samples)
    # output shape: (#channels, #segments, segment_samples)
    start, end = 0, segment_samples
    segments = []
    hop_length = int(segment_samples * (1 - overlap))
    while end <= signal.shape[1]:
        segment = signal[:, start:end]
        start = start + hop_length
        end = end + hop_length
        segments.append(segment)
    return torch.stack(segments, dim = 1)

def predict_and_overlap(model, full_signal, segment_samples = 6 * 44100, overlap = 0.5, n_fft = 2048,
    device = 'cuda' if torch.cuda.is_available() else 'cpu'):
    model = model.eval().to(device)
    full_signal = full_signal.to(device)
    length = full_signal.shape[1]
    full_signal = zero_pad(full_signal)
    segments = split_to_segments(full_signal)
    num_channels, num_segments, segment_samples = segments.shape
    output = torch.zeros_like(full_signal)
    hop_samples = int(segment_samples * (1 - overlap))
    start, end = 0, segment_samples
    with torch.no_grad():
        with tq.trange(num_segments, desc="Segment ") as segments_tq:
            for num_segment in segments_tq:
                input_segment = segments[:, num_segment, :].unsqueeze(0)
                mask_prediction, input_spectrogram = model(input_segment)
                stft_prediction = (mask_prediction * input_spectrogram)
                stft_prediction = torch.complex(stft_prediction[0, :, :, 0], stft_prediction[0, :, :, 1])
                signal_prediction = torch.istft(stft_prediction, n_fft = n_fft, hop_length = hop_length)
                output[:, start:end] += signal_prediction
                start += hop_samples
                end += hop_samples
    return output, full_signal

def eval_dir(model, dir_path = 'test/', out_path = 'outputs/', full_test_mode = False):

```

```

filenames = os.listdir(dir_path)
cSDRs = []
for filename in filenames:
    print("processing " + filename)
    mixture, sr1 = torchaudio.load(dir_path + filename + '/mixture.wav')
    source, sr2 = torchaudio.load(dir_path + filename + '/vocals.wav')
    assert(sr1 == sr2 and sr1 == 44100)
    estimate = predict_and_overlap(model, mixture)
    # torchaudio.save(out_path + filename + '_vocal.wav', estimate[0].cpu().detach(), 44100, channel_dim=1)
    if full_test_mode:
        sdr, isr, sir, sar = museval.evaluate(source.unsqueeze(0).permute(0, 2, 1).cpu().numpy(), estimate[0].cpu().numpy())
        cSDR = np.mean(np.nanmedian(sdr, axis = 1))
        cSDRs.append(cSDR)
    print("cSDR: ", cSDR, "    average cSDR so far:", sum(cSDRs)/len(cSDRs))
return cSDRs

ckpt = torch.load('chroma_attention_checkpoint_latest.pt')

ckpt['train_step']

54609

ckpt = torch.load('chroma_fc_group_checkpoint_latest.pt')

ckpt['train_step']

46092

ckpt = torch.load('checkpoint_latest.pt')

ckpt['train_step']

60800

ckpt = torch.load('attentioncheckpoint_nosdr_latest.pt')

ckpt['train_step']

7849

chroma_attention = ChromaModel(hparams_chroma, "attention")
load_model('chroma_attention_checkpoint_latest.pt', chroma_attention)

attention chroma mode

attention_csdrs = eval_dir(chroma_attention, out_path = 'chroma_attention/', full_test_mode = True)

```

processing AM Contra - Heart Peripheral
Segment: 100% 70/70 [00:27<00:00, 2.49it/s]
cSDR: 8.782227718417364 average cSDR so far: 8.782227718417364
processing Side Effects Project - Sing With Me
Segment: 100% 81/81 [00:31<00:00, 2.53it/s]
cSDR: 11.63621000289969 average cSDR so far: 10.209218860658527
processing PR - Oh No
Segment: 100% 25/25 [00:09<00:00, 2.63it/s]
cSDR: -0.05606571964333377 average cSDR so far: 6.78745733389124
processing Triviul feat. The Fiend - Widow
Segment: 100% 78/78 [00:30<00:00, 2.57it/s]
cSDR: 8.541411774773376 average cSDR so far: 7.225945944111774
processing The Easton Ellises - Falcon 69
Segment: 100% 82/82 [00:31<00:00, 2.54it/s]
cSDR: 2.7511809168245582 average cSDR so far: 6.330992938654331
processing Ben Carrigan - We'll Talk About It All Tonight
Segment: 100% 84/84 [00:32<00:00, 2.55it/s]
cSDR: 3.5373939573406665 average cSDR so far: 5.865393108435387
processing Detsky Sad - Walkie Talkie
Segment: 100% 63/63 [00:24<00:00, 2.56it/s]
cSDR: 8.483090000413128 average cSDR so far: 6.23934980728935
processing The Sunshine Garcia Band - For I Am The Moon
Segment: 100% 106/106 [00:41<00:00, 2.63it/s]
cSDR: 10.28432519846795 average cSDR so far: 6.744971731186675
processing We Fell From The Sky - Not You
Segment: 100% 69/69 [00:26<00:00, 2.59it/s]
cSDR: 5.4197728192582275 average cSDR so far: 6.59772740763907
processing Tom McKenzie - Directions
Segment: 100% 58/58 [00:22<00:00, 2.54it/s]
cSDR: 7.898074029350903 average cSDR so far: 6.727762069810254
processing Secretariat - Over The Top
Segment: 100% 83/83 [00:32<00:00, 2.60it/s]
cSDR: 6.727095614172281 average cSDR so far: 6.727701482934075
processing PR - Happy Daze
Segment: 100% 54/54 [00:20<00:00, 2.57it/s]
cSDR: -0.04412374267051393 average cSDR so far: 6.163382714133693
processing Nerve 9 - Pray For The Rain
Segment: 100% 114/114 [00:43<00:00, 2.64it/s]
cSDR: 6.0874135105485205 average cSDR so far: 6.157538929242525
processing Cristina Vane - So Easy
Segment: 100% 84/84 [00:32<00:00, 2.55it/s]
cSDR: 9.564809564321022 average cSDR so far: 6.400915403176704
processing Carlos Gonzalez - A Place For Us
Segment: 100% 83/83 [00:32<00:00, 2.54it/s]
cSDR: 4.959361997715961 average cSDR so far: 6.304811842812654
processing BKS - Too Much
Segment: 100% 73/73 [00:28<00:00, 2.54it/s]
cSDR: 9.496459602962075 average cSDR so far: 6.504289827821993
processing The Mountaineering Club - Mallory
Segment: 100% 81/81 [00:31<00:00, 2.54it/s]
cSDR: 9.254790895530327 average cSDR so far: 6.6660840082754245
processing Arise - Run Run Run
Segment: 100% 73/73 [00:28<00:00, 2.54it/s]
cSDR: 5.585834403384839 average cSDR so far: 6.606070141337058
processing Little Chicago's Finest - My Own
Segment: 100% 93/93 [00:36<00:00, 2.55it/s]
cSDR: 10.018186891090192 average cSDR so far: 6.785655233429328
processing Sambasevam Shanmugam - Kaathaadi
Segment: 100% 105/105 [00:40<00:00, 2.54it/s]

cSDR: 10.879702425055317 average cSDR so far: 6.990357593010627
processing The Easton Ellises (Baumi) - SDRNR
Segment: 100% 78/78 [00:29<00:00, 2.54it/s]

cSDR: 1.509552282830949 average cSDR so far: 6.729366863954452
processing Speak Softly - Broken Man
Segment: 100% 84/84 [00:32<00:00, 2.55it/s]

cSDR: 4.036463999795042 average cSDR so far: 6.606962188310843
processing Skelpolu - Resurrection
Segment: 100% 131/131 [00:50<00:00, 2.62it/s]

cSDR: 0.5309998736120863 average cSDR so far: 6.342789913758723
processing Juliet's Rescue - Heartbeats
Segment: 100% 89/89 [00:34<00:00, 2.56it/s]

cSDR: 8.144395433861348 average cSDR so far: 6.417856810429665
processing Raft Monk - Tiring
Segment: 100% 70/70 [00:27<00:00, 2.54it/s]

cSDR: 4.358853111279713 average cSDR so far: 6.335496662463666
processing Louis Cressy Band - Good Time
Segment: 100% 97/97 [00:37<00:00, 2.57it/s]

cSDR: 6.287939924377093 average cSDR so far: 6.333667557152645
processing The Long Wait - Dark Horses
Segment: 100% 101/101 [00:38<00:00, 2.55it/s]

cSDR: 7.209774482681855 average cSDR so far: 6.366115961801875
processing M.E.R.C. Music - Knockout
Segment: 100% 89/89 [00:34<00:00, 2.53it/s]

cSDR: 9.141533373379982 average cSDR so far: 6.465238012215379
processing Forkupines - Semantics
Segment: 100% 91/91 [00:35<00:00, 2.54it/s]

cSDR: 6.6579406094992954 average cSDR so far: 6.4718829293631
processing Lyndsey Ollard - Catching Up
Segment: 100% 75/75 [00:28<00:00, 2.55it/s]

cSDR: 9.816431853025588 average cSDR so far: 6.583367893485184
processing Girls Under Glass - We Feel Alright
Segment: 100% 105/105 [00:40<00:00, 2.57it/s]

cSDR: 4.24019344478197 average cSDR so far: 6.5077816209463695
processing Buitraker - Revo X
Segment: 100% 91/91 [00:34<00:00, 2.54it/s]

cSDR: 4.043607161218008 average cSDR so far: 6.430776169079858
processing Angels In Amplifiers - I'm Alright
Segment: 100% 59/59 [00:22<00:00, 2.57it/s]

cSDR: 8.111281968725837 average cSDR so far: 6.481700587250949
processing The Doppler Shift - Atrophy
Segment: 100% 110/110 [00:42<00:00, 2.62it/s]

cSDR: 5.191400857454358 average cSDR so far: 6.443750595198108
processing Al James - Schoolboy Facination
Segment: 100% 66/66 [00:25<00:00, 2.57it/s]

cSDR: 6.955594811623178 average cSDR so far: 6.458374715667396
processing Mu - Too Bright
Segment: 100% 90/90 [00:35<00:00, 2.59it/s]

cSDR: 7.272303437732878 average cSDR so far: 6.480983846835882
processing Bobby Nobody - Stitch Up
Segment: 100% 73/73 [00:27<00:00, 2.55it/s]

cSDR: 7.775694942309789 average cSDR so far: 6.515976038605447
processing Speak Softly - Like Horses
Segment: 100% 104/104 [00:40<00:00, 2.62it/s]

cSDR: 6.506043490383343 average cSDR so far: 6.515714655757497
processing Secretariat - Borderline
Segment: 100% 95/95 [00:36<00:00, 2.54it/s]

cSDR: 4.755651408348842 average cSDR so far: 6.470584828900865
processing Motor Tapes - Shore

```

Segment: 100%                                82/82 [00:31<00:00, 2.55it/s]
cSDR: 2.6366625231183622    average cSDR so far: 6.374736771256303
processing Moosmusic - Big Dummy Shake

Segment: 100%                                66/66 [00:25<00:00, 2.55it/s]
cSDR: 9.09217657136725    average cSDR so far: 6.441015790771204
processing Signe Jakobsen - What Have You Done To Me

Segment: 100%                                59/59 [00:22<00:00, 2.55it/s]
cSDR: 8.488905359854362    average cSDR so far: 6.489775066225565
processing Punkdisco - Oral Hygiene

Segment: 100%                                73/73 [00:28<00:00, 2.58it/s]
cSDR: 8.504377386177131    average cSDR so far: 6.536626282968625
processing Georgia Wonder - Siren

Segment: 100%                                143/143 [00:55<00:00, 2.65it/s]
cSDR: 4.353549707981802    average cSDR so far: 6.487010906264379
processing BKS - Bulldozer

Segment: 100%                                112/112 [00:43<00:00, 2.58it/s]
cSDR: 2.8656320484100872    average cSDR so far: 6.406535820534283
processing Timboz - Pony

Segment: 100%                                84/84 [00:32<00:00, 2.54it/s]
cSDR: 3.105057096348161    average cSDR so far: 6.334764543921541

csdrs = eval_dir(chroma_attention, out_path = 'chroma_attention/', full_test_mode = True)
cSDR: 6.117334624822623    average cSDR so far: 6.330138375430074
attention_csdrs
cSDR: 8.054860887733941    average cSDR so far: 6.366070094436405
parallel_chroma_split = ChromaModel(hparams_chroma, 'group_fc')
load_model('chroma_fc_group_checkpoint_latest.pt', parallel_chroma_split)

forward layer parallel chroma mode

Segment: 100%                                70/70 [00:30<00:00, 2.57it/s]
parallel_csdrs = eval_dir(parallel_chroma_split, out_path = 'parallel_split/', full_test_mode = True)

```

processing AM Contra - Heart Peripheral
Segment: 100% 70/70 [00:27<00:00, 2.57it/s]
cSDR: 8.70384616075873 average cSDR so far: 8.70384616075873
processing Side Effects Project - Sing With Me
Segment: 100% 81/81 [00:30<00:00, 2.55it/s]
cSDR: 11.479711342042439 average cSDR so far: 10.091778751400584
processing PR - Oh No
Segment: 100% 25/25 [00:09<00:00, 2.63it/s]
cSDR: -0.24399268325115478 average cSDR so far: 6.6465216065166715
processing Triviul feat. The Fiend - Widow
Segment: 100% 78/78 [00:30<00:00, 2.59it/s]
cSDR: 7.930856981161744 average cSDR so far: 6.96760545017794
processing The Easton Ellises - Falcon 69
Segment: 100% 82/82 [00:31<00:00, 2.55it/s]
cSDR: 2.4905783894510445 average cSDR so far: 6.072200038032561
processing Ben Carrigan - We'll Talk About It All Tonight
Segment: 100% 84/84 [00:32<00:00, 2.58it/s]
cSDR: 4.035098959771137 average cSDR so far: 5.732683191655657
processing Detsky Sad - Walkie Talkie
Segment: 100% 63/63 [00:23<00:00, 2.58it/s]
cSDR: 8.688116860238004 average cSDR so far: 6.154888001453136
processing The Sunshine Garcia Band - For I Am The Moon
Segment: 100% 106/106 [00:41<00:00, 2.63it/s]
cSDR: 10.201842496564083 average cSDR so far: 6.660757313342004
processing We Fell From The Sky - Not You
Segment: 100% 69/69 [00:26<00:00, 2.60it/s]
cSDR: 5.346525622136789 average cSDR so far: 6.514731569874758
processing Tom McKenzie - Directions
Segment: 100% 58/58 [00:22<00:00, 2.54it/s]
cSDR: 8.357723409704512 average cSDR so far: 6.699030753857732
processing Secretariat - Over The Top
Segment: 100% 83/83 [00:31<00:00, 2.63it/s]
cSDR: 7.054596603713143 average cSDR so far: 6.731354922026406
processing PR - Happy Daze
Segment: 100% 54/54 [00:20<00:00, 2.58it/s]
cSDR: -0.026000947261714938 average cSDR so far: 6.168241932919062
processing Nerve 9 - Pray For The Rain
Segment: 100% 114/114 [00:43<00:00, 2.66it/s]
cSDR: 6.285178612576001 average cSDR so far: 6.177237062123442
processing Cristina Vane - So Easy
Segment: 100% 84/84 [00:31<00:00, 2.57it/s]
cSDR: 9.575618941827075 average cSDR so far: 6.419978624959415
processing Carlos Gonzalez - A Place For Us
Segment: 100% 83/83 [00:32<00:00, 2.57it/s]
cSDR: 4.830637298206705 average cSDR so far: 6.314022536509236
processing BKS - Too Much
Segment: 100% 73/73 [00:27<00:00, 2.58it/s]
cSDR: 9.48809892211942 average cSDR so far: 6.512402310609872
processing The Mountaineering Club - Mallory
Segment: 100% 81/81 [00:31<00:00, 2.57it/s]
cSDR: 9.654572272974502 average cSDR so far: 6.697235837807791
processing Arise - Run Run Run
Segment: 100% 73/73 [00:27<00:00, 2.56it/s]
cSDR: 6.067889397789381 average cSDR so far: 6.662272146695658
processing Little Chicago's Finest - My Own
Segment: 100% 93/93 [00:35<00:00, 2.58it/s]
cSDR: 10.400508578362631 average cSDR so far: 6.859021432572867
processing Sambasevam Shanmugam - Kaathaadi
Segment: 100% 105/105 [00:40<00:00, 2.57it/s]

cSDR: 10.862609560260195 average cSDR so far: 7.059200838957233
processing The Easton Ellises (Baumi) - SDRNR
Segment: 100% 78/78 [00:29<00:00, 2.56it/s]

cSDR: 2.7853041126222173 average cSDR so far: 6.855681947226993
processing Speak Softly - Broken Man
Segment: 100% 84/84 [00:32<00:00, 2.56it/s]

cSDR: 3.433136999178346 average cSDR so far: 6.700111722315691
processing Skelpolu - Resurrection
Segment: 100% 131/131 [00:50<00:00, 2.63it/s]

cSDR: 0.3889262186843617 average cSDR so far: 6.4257123525925905
processing Juliet's Rescue - Heartbeats
Segment: 100% 89/89 [00:33<00:00, 2.57it/s]

cSDR: 8.189777965074162 average cSDR so far: 6.499215086445989
processing Raft Monk - Tiring
Segment: 100% 70/70 [00:26<00:00, 2.56it/s]

cSDR: 4.4434522102625404 average cSDR so far: 6.416984571398651
processing Louis Cressy Band - Good Time
Segment: 100% 97/97 [00:37<00:00, 2.59it/s]

cSDR: 6.334309497158371 average cSDR so far: 6.413804760850947
processing The Long Wait - Dark Horses
Segment: 100% 101/101 [00:38<00:00, 2.57it/s]

cSDR: 7.349044046030036 average cSDR so far: 6.448443252894617
processing M.E.R.C. Music - Knockout
Segment: 100% 89/89 [00:34<00:00, 2.57it/s]

cSDR: 9.256173854784475 average cSDR so far: 6.548719345819255
processing Forkupines - Semantics
Segment: 100% 91/91 [00:34<00:00, 2.55it/s]

cSDR: 6.718740037498211 average cSDR so far: 6.554582128290943
processing Lyndsey Ollard - Catching Up
Segment: 100% 75/75 [00:28<00:00, 2.54it/s]

cSDR: 9.788494764449784 average cSDR so far: 6.662379216162904
processing Girls Under Glass - We Feel Alright
Segment: 100% 105/105 [00:40<00:00, 2.60it/s]

cSDR: 4.212179608846282 average cSDR so far: 6.58334051915269
processing Buitraker - Revo X
Segment: 100% 91/91 [00:34<00:00, 2.54it/s]

cSDR: 4.351298477585644 average cSDR so far: 6.513589205353719
processing Angels In Amplifiers - I'm Alright
Segment: 100% 59/59 [00:22<00:00, 2.57it/s]

cSDR: 8.057978296340275 average cSDR so far: 6.560388874777555
processing The Doppler Shift - Atrophy
Segment: 100% 110/110 [00:42<00:00, 2.65it/s]

cSDR: 5.2654562340825795 average cSDR so far: 6.522302620639468
processing Al James - Schoolboy Facination
Segment: 100% 66/66 [00:25<00:00, 2.59it/s]

cSDR: 6.962350569601197 average cSDR so far: 6.5348754191812315
processing Mu - Too Bright
Segment: 100% 90/90 [00:34<00:00, 2.60it/s]

cSDR: 7.39365870971441 average cSDR so far: 6.5587305105849305
processing Bobby Nobody - Stitch Up
Segment: 100% 73/73 [00:27<00:00, 2.58it/s]

cSDR: 8.015896047640611 average cSDR so far: 6.598113362937786
processing Speak Softly - Like Horses
Segment: 100% 104/104 [00:40<00:00, 2.62it/s]

cSDR: 6.33645712978883 average cSDR so far: 6.591227672591762
processing Secretariat - Borderline
Segment: 100% 95/95 [00:36<00:00, 2.55it/s]

cSDR: 4.98932968127235 average cSDR so far: 6.550153365122033
processing Motor Tapes - Shore

```
Segment: 100%                                82/82 [00:31<00:00, 2.54it/s]
cSDR:  2.894299124543635    average cSDR so far: 6.458757009107574
processing Moosmusic - Big Dummy Shake

Segment: 100%                                66/66 [00:25<00:00, 2.56it/s]
cSDR:  8.454082533501781    average cSDR so far: 6.50742348531231
processing Signe Jakobsen - What Have You Done To Me

Segment: 100%                                59/59 [00:22<00:00, 2.55it/s]

attention_nosdr = ChromaModel(hparams_chroma, 'attention')
load_model('attentioncheckpoint_nosdr_latest.pt', attention_nosdr)

attention chroma mode
processing Georgia Wonder - Siren

nosdr_csdrs = eval_dir(attention_nosdr, out_path = 'attention_nosdr/', full_test_mode = True)
```

processing AM Contra - Heart Peripheral	
Segment: 100%	70/70 [00:24<00:00, 2.85it/s]
cSDR: 7.34791363627262	
processing Side Effects Project - Sing With Me	
Segment: 100%	81/81 [00:29<00:00, 2.77it/s]
cSDR: 9.792736963558564	
processing PR - Oh No	
Segment: 100%	25/25 [00:08<00:00, 2.81it/s]
cSDR: -7.704820713283313	
processing Triviul feat. The Fiend - Widow	
Segment: 100%	78/78 [00:28<00:00, 2.67it/s]
cSDR: 6.414018527644619	
processing The Easton Ellises - Falcon 69	
Segment: 100%	82/82 [00:30<00:00, 2.72it/s]
cSDR: 2.538635565313	
processing Ben Carrigan - We'll Talk About It All Tonight	
Segment: 100%	84/84 [00:31<00:00, 2.64it/s]
cSDR: 2.2742372803553765	
processing Detsky Sad - Walkie Talkie	
Segment: 100%	63/63 [00:23<00:00, 2.70it/s]
cSDR: 6.8895266279117	
processing The Sunshine Garcia Band - For I Am The Moon	
Segment: 100%	106/106 [00:39<00:00, 2.73it/s]
cSDR: 8.02620592950662	
processing We Fell From The Sky - Not You	
Segment: 100%	69/69 [00:25<00:00, 2.63it/s]
cSDR: 3.5965013845731213	
processing Tom McKenzie - Directions	
Segment: 100%	58/58 [00:21<00:00, 2.73it/s]
cSDR: 5.171559152712815	
processing Secretariat - Over The Top	
Segment: 100%	83/83 [00:31<00:00, 2.64it/s]
cSDR: 4.353853400752643	
processing PR - Happy Daze	
Segment: 100%	54/54 [00:19<00:00, 2.69it/s]
cSDR: -7.242617193877564	
processing Nerve 9 - Pray For The Rain	
Segment: 100%	114/114 [00:43<00:00, 2.70it/s]
cSDR: 4.594049919725843	
processing Cristina Vane - So Easy	
Segment: 100%	84/84 [00:31<00:00, 2.61it/s]
cSDR: 7.61898220992939	
processing Carlos Gonzalez - A Place For Us	
Segment: 100%	83/83 [00:31<00:00, 2.65it/s]
cSDR: 3.3324607638115147	
processing BKS - Too Much	
Segment: 100%	73/73 [00:27<00:00, 2.60it/s]
cSDR: 7.640976082431667	
processing The Mountaineering Club - Mallory	
Segment: 100%	81/81 [00:30<00:00, 2.65it/s]
cSDR: 6.571266731328821	
processing Arise - Run Run Run	
Segment: 100%	73/73 [00:27<00:00, 2.62it/s]
cSDR: 3.866990786666899	
processing Little Chicago's Finest - My Own	
Segment: 100%	93/93 [00:35<00:00, 2.66it/s]
cSDR: 5.007859186402193	
processing Sambasevam Shanmugam - Kaathaadi	
Segment: 100%	105/105 [00:39<00:00, 2.61it/s]

```

cSDR: 6.99339264177706
processing The Easton Ellises (Baumi) - SDRNR
Segment: 100% 78/78 [00:28<00:00, 2.68it/s]

cSDR: 2.6387370150240406
processing Speak Softly - Broken Man
Segment: 100% 84/84 [00:31<00:00, 2.71it/s]

cSDR: 2.293179492289353
processing Skelpolu - Resurrection
Segment: 100% 131/131 [00:49<00:00, 2.69it/s]

cSDR: 0.4217887930883709
processing Juliet's Rescue - Heartbeats
Segment: 100% 89/89 [00:32<00:00, 2.73it/s]

cSDR: 6.31835634224874
processing Raft Monk - Tiring
Segment: 100% 70/70 [00:26<00:00, 2.69it/s]

cSDR: 3.0464851944994678
processing Louis Cressy Band - Good Time
Segment: 100% 97/97 [00:35<00:00, 2.63it/s]

cSDR: 4.162246382971221
processing The Long Wait - Dark Horses
Segment: 100% 101/101 [00:37<00:00, 2.64it/s]

cSDR: 5.089742087672314
processing M.E.R.C. Music - Knockout
Segment: 100% 89/89 [00:32<00:00, 2.68it/s]

cSDR: 6.197026691384204
processing Forkupines - Semantics
Segment: 100% 91/91 [00:33<00:00, 2.66it/s]

cSDR: 5.462440259791764
processing Lyndsey Ollard - Catching Up
Segment: 100% 75/75 [00:27<00:00, 2.73it/s]

cSDR: 8.269698250778845
processing Girls Under Glass - We Feel Alright
Segment: 17% 18/105 [00:06<00:31, 2.73it/s]

cSDR: 3.0036381053184718
processing Buitraker - Revo X
Segment: 0% | 0/91 [00:00<?, ?it/s]
cSDR: 2.2825841774203455

```

```

-----
NameError                                Traceback (most recent call last)
<ipython-input-6-945b69cdclf0> in <cell line: 1>()
----> 1 nosdr_csdrs

```

NameError: name 'nosdr_csdrs' is not defined

SEARCH STACK OVERFLOW

processing Bobby Nobody - Stitch Up

```

processing Speak Softly - Like Horses
Segment: 0% | 0/104 [00:00<?, ?it/s]
cSDR: 4.359156350471151
processing Secretariat - Borderline
Segment: 0% | 0/95 [00:00<?, ?it/s]
cSDR: 2.58037131489109
processing Motor Tapes - Shore
Segment: 0% | 0/82 [00:00<?, ?it/s]
cSDR: 0.3407018126589102
processing Moosmusic - Big Dummy Shake
Segment: 0% | 0/66 [00:00<?, ?it/s]
cSDR: 6.146927234583851
processing Signe Jakobsen - What Have You Done To Me
Segment: 0% | 0/59 [00:00<?, ?it/s]

```

```
cSDR: 6.467197822314468
processing Punkdisco - Oral Hygiene
Segment : 0%|          | 0/73 [00:00<?, ?it/s]
cSDR: 6.019799920743577
processing Georgia Wonder - Siren
Segment : 0%|          | 0/143 [00:00<?, ?it/s]
cSDR: 2.526661450823493
processing BKS - Bulldozer
Segment : 0%|          | 0/112 [00:00<?, ?it/s]
cSDR: 1.4713067221308294
```

✓ 43m 58s completed at 2:35 PM

