SRIPTask – Develop SpiroMask end-to-end.

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IMPORTING AUDIO

```python
import librosa
import numpy as np
import matplotlib.pyplot as plt
import librosa.display
from IPython.display import Audio

## Importing Audio
breathing = "/Users/vanshya/Documents/WhatsApp Ptt 2024-02-21 at 5.29.08 PM.wav"
Audio(data = breathing, autoplay = False)
```

```
<IPython.lib.display.Audio object>
```

CALCULATING SAMPLING RATE

```python
y, sr = librosa. load( breathing)
print("Sampling Rate:", sr, "Hz")
print("Sampling Rate:", sr/1000, "kHz")
```

```
Sampling Rate: 22050 Hz
Sampling Rate: 22.05 kHz
```

MAKING A WAVEFORM

```
plt.figure(figsize=(12, 4))
librosa.display.waveshow(y, sr=sr)
plt.title('Waveform')
plt.xlabel('Time (s)')
plt.ylabel('Amplitude')
plt.show
```
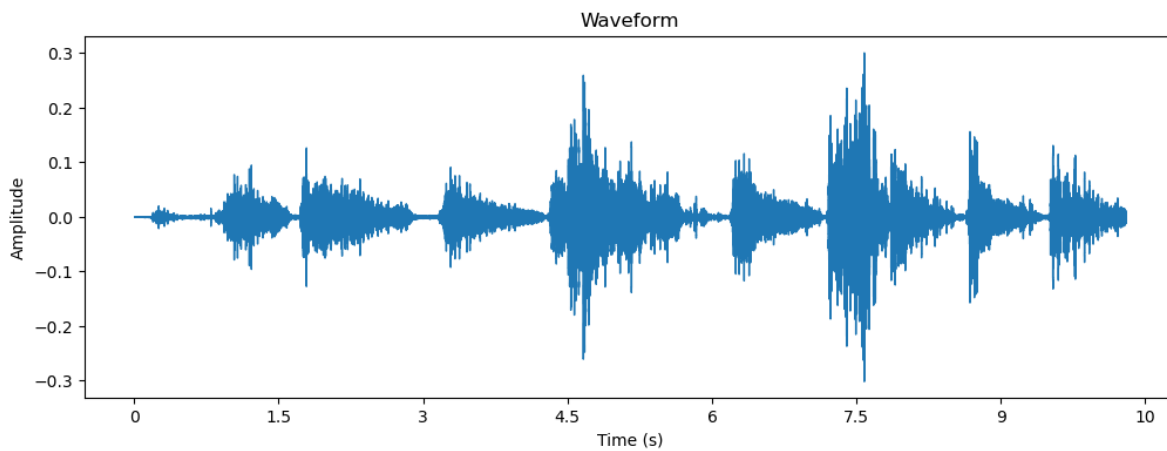

Figure 1

MAKING A SPECTOGRAM

```
D = librosa.amplitude_to_db(np.abs(librosa.stft(y)), ref=np.max)
plt.figure(figsize=(12, 8))

librosa.display.specshow(D, sr=sr, x_axis='time', y_axis='log')

plt.colorbar(format='%+2.0f dB')
plt.title('Spectrogram')
plt.show()
```
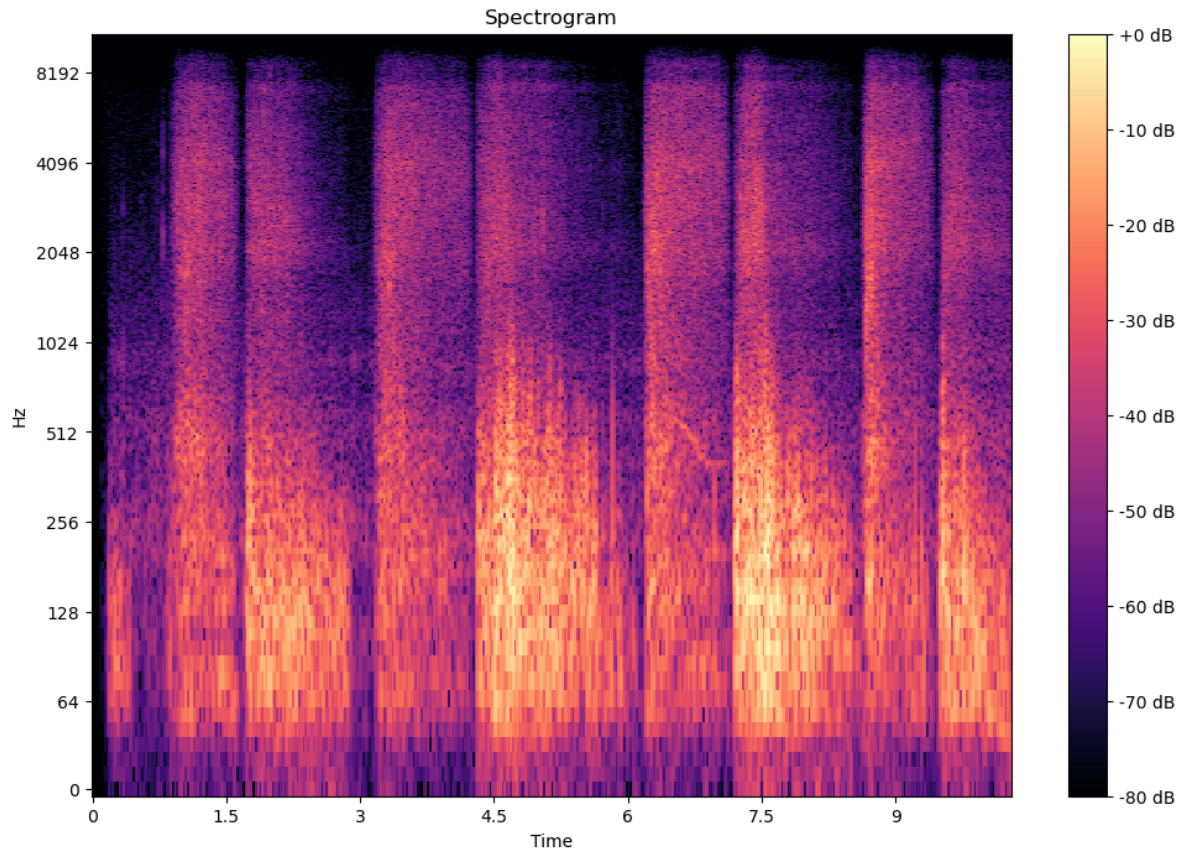
Figure 2