Speech Classification

MCA Homework 2 Report

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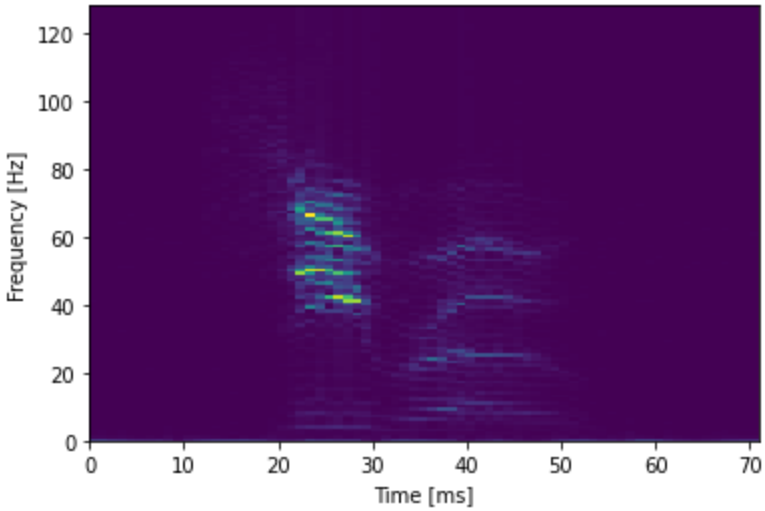
Question 3 - SVM Training Result on MFCC:

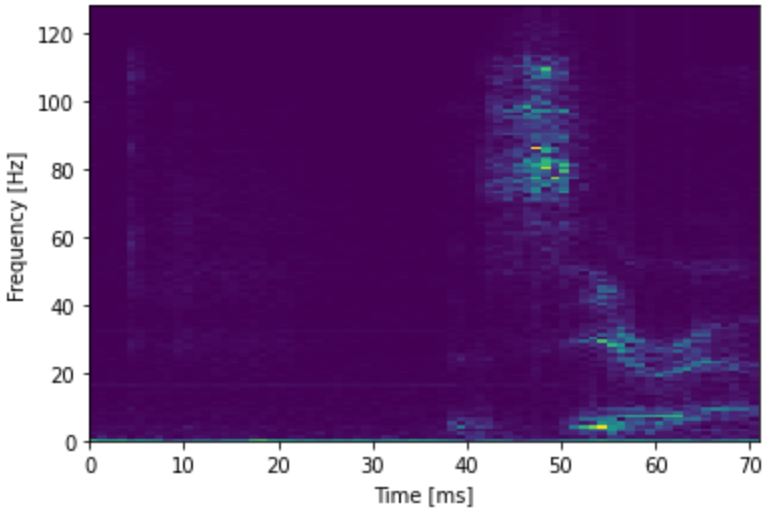
	precision	recall	f1-score
0	0.52	0.64	0.57
1	0.40	0.47	0.43
2	0.33	0.35	0.34
3	0.49	0.53	0.51
4	0.61	0.57	0.59
5	0.47	0.49	0.48
6	0.75	0.69	0.72
7	0.53	0.47	0.50
8	0.62	0.54	0.58
9	0.39	0.33	0.36
accuracy			0.51
macro avg	0.51	0.51	0.51
weighted avg	0.52	0.51	0.51

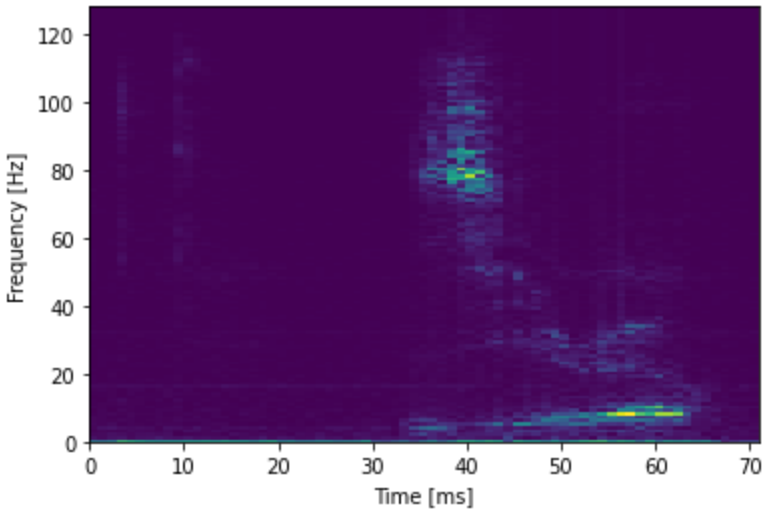
Question 3 - SVM Training Result on spectrogram:

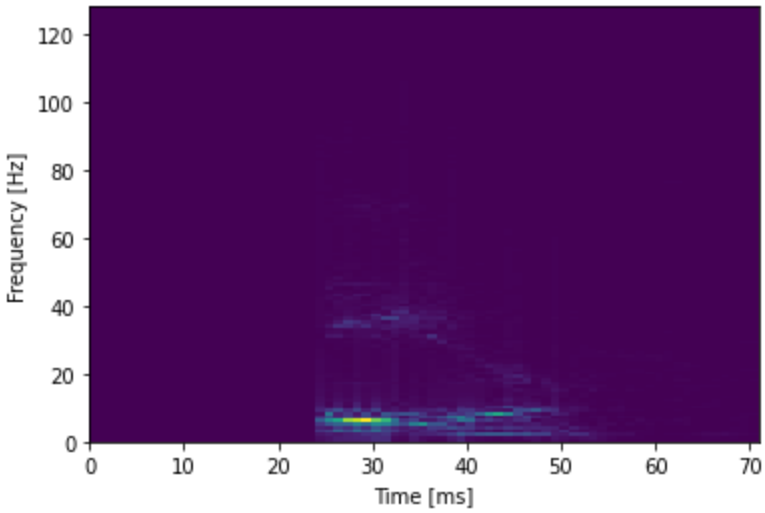
	precision	recall	f1-score
0	0.62	0.36	0.46
1	0.40	0.54	0.46
2	0.35	0.44	0.39
3	0.47	0.25	0.33
4	0.72	0.52	0.60
5	0.61	0.48	0.54
6	0.32	0.83	0.47
7	0.68	0.41	0.51
8	0.49	0.50	0.49
9	0.65	0.35	0.45
accuracy			0.47
macro avg	0.53	0.47	0.47
weighted avg	0.53	0.47	0.47

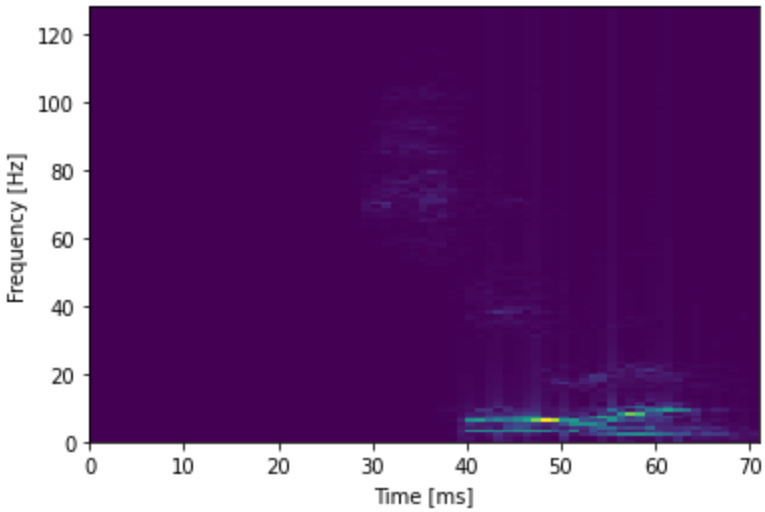
Question 1 - Spectrogram plots



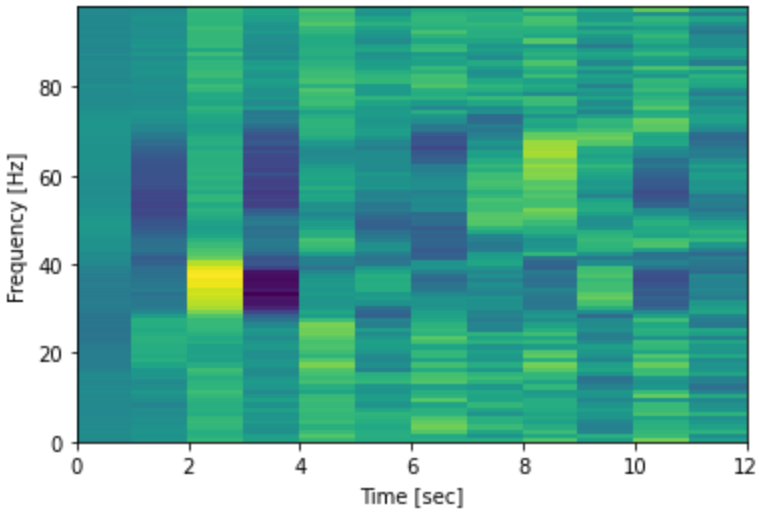


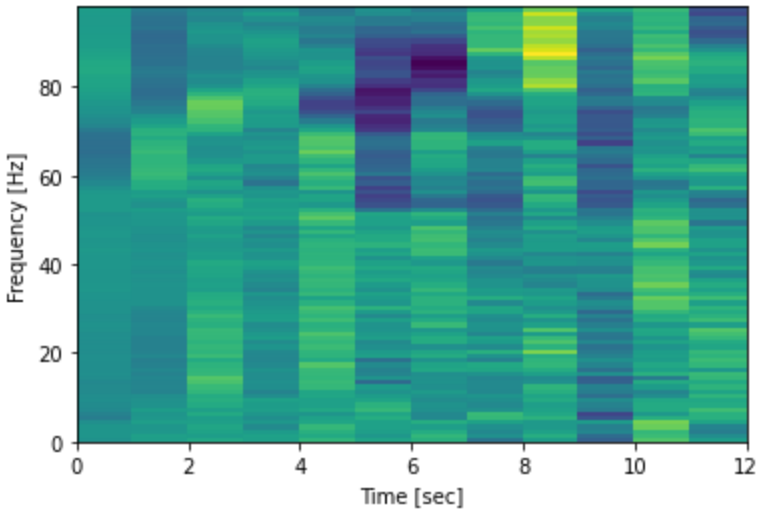


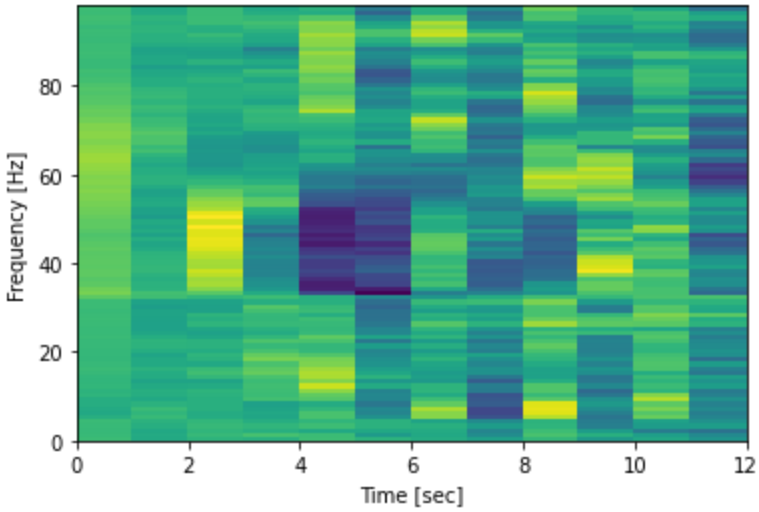




Question 2 - MFCC plots




Frequency [Hz]
0
20
40
60
80
0
2
4
6
8
10
12
Time [sec]


Frequency [Hz]
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20
40
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2
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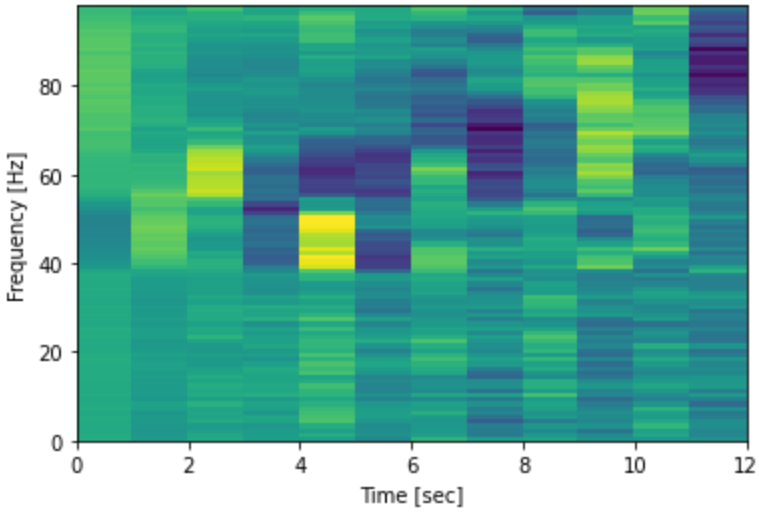
Time [sec]


Frequency [Hz]
0
20
40
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2
4
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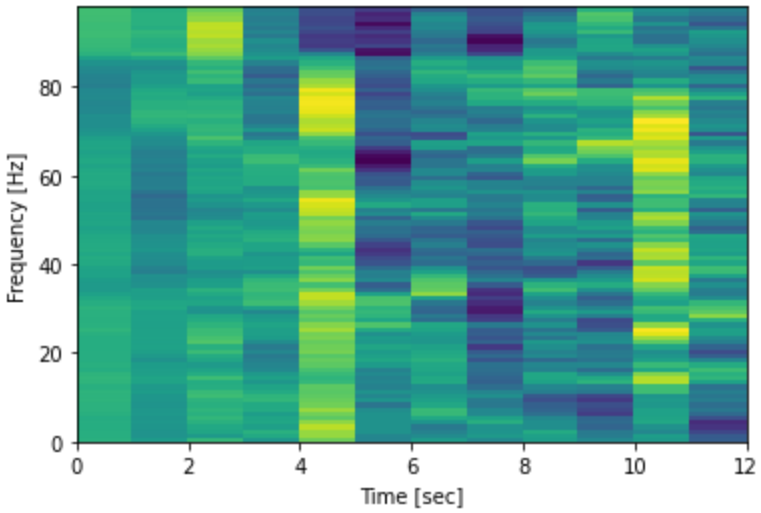
12
Time [sec]



Sources:

https://fairyonice.github.io/implement-the-spectrogram-from-scratch-in-python.html

https://haythamfayek.com/2016/04/21/speech-processing-for-machine-learning.html