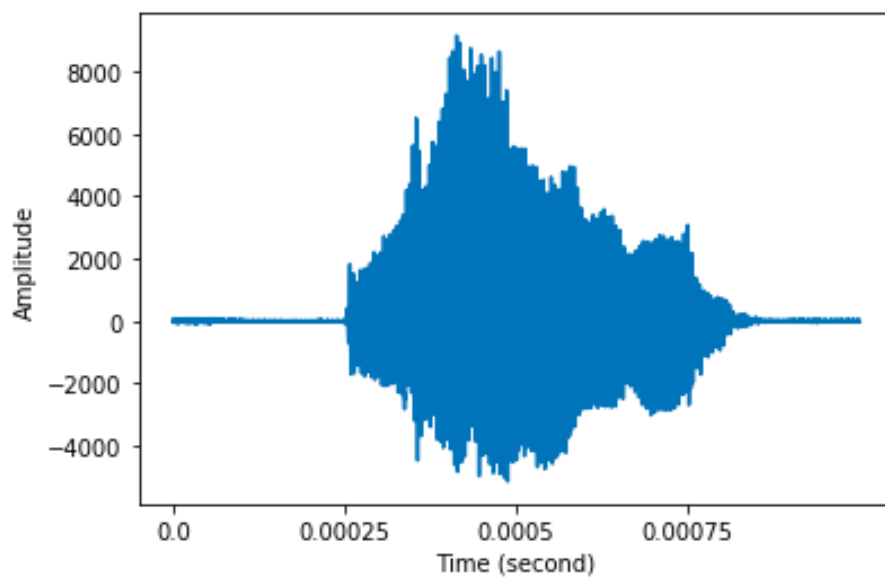


MCA - Assignment 2

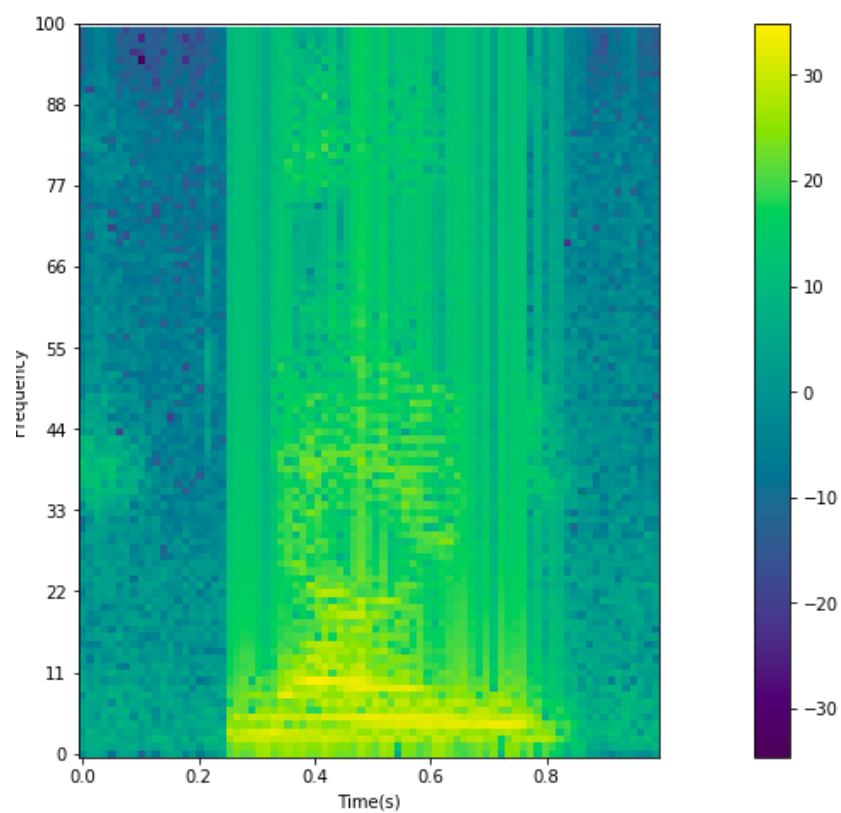
Speech Classification

Plots

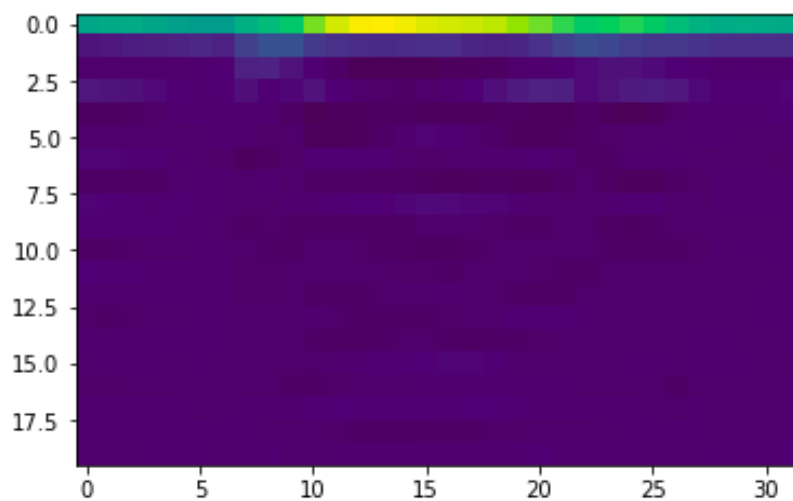
Audio Data Point Example Plot



Spectrogram Plot For the Audio Signal



Corresponding MFCC Plot



Classification Reports On Validation Data

Spectrograms from Clean Base Data

	precision	recall	f1-score	support
0	0.41	0.09	0.15	260
1	0.19	0.07	0.10	230
2	0.19	0.14	0.16	236
3	0.29	0.17	0.21	248
4	0.42	0.16	0.23	280
5	0.57	0.22	0.32	242
6	0.14	0.86	0.24	262
7	0.45	0.13	0.21	263
8	0.33	0.08	0.13	243
9	0.49	0.21	0.30	230
accuracy			0.22	2494
macro avg	0.35	0.21	0.20	2494
weighted avg	0.35	0.22	0.20	2494

MFCCs from Clean Base Data

	precision	recall	f1-score	support
0	0.83	0.60	0.70	260
1	0.43	0.60	0.50	230
2	0.39	0.57	0.46	236
3	0.58	0.56	0.57	248
4	0.67	0.67	0.67	280
5	0.67	0.55	0.60	242
6	0.78	0.76	0.77	262
7	0.75	0.57	0.65	263
8	0.62	0.63	0.62	243
9	0.56	0.53	0.55	230
accuracy			0.61	2494
macro avg	0.63	0.60	0.61	2494
weighted avg	0.63	0.61	0.61	2494

Spectrograms On Noise Augmented Data

	precision	recall	f1-score	support
0	0.34	0.08	0.14	260
1	0.26	0.08	0.12	230
2	0.21	0.19	0.20	236
3	0.28	0.09	0.13	248
4	0.46	0.17	0.25	280
5	0.59	0.21	0.31	242
6	0.14	0.87	0.24	262
7	0.37	0.12	0.18	263
8	0.33	0.06	0.10	243
9	0.48	0.14	0.22	230
accuracy			0.21	2494
macro avg	0.35	0.20	0.19	2494
weighted avg	0.35	0.21	0.19	2494

MFCCs On Noise Augmented Data

	precision	recall	f1-score	support
0	0.30	0.42	0.35	260
1	0.20	0.23	0.21	230
2	0.14	0.51	0.22	236
3	0.08	0.01	0.02	248
4	0.30	0.68	0.42	280
5	0.42	0.21	0.28	242
6	0.95	0.14	0.25	262
7	0.57	0.08	0.13	263
8	0.33	0.08	0.13	243
9	0.35	0.15	0.21	230
accuracy			0.25	2494
macro avg	0.36	0.25	0.22	2494
weighted avg	0.37	0.25	0.22	2494