

+++++ Digit resolution 32 X 32 +++++

Resolution of digits dataset changed to (x,y) : (32, 32)

Dataset shape (1797, 32, 32)

[" Gamma : g, ' C': c}]", '	Train Accuracy', '	Validation Accuracy', '	Test Accuracy']
[{'gamma': 0.01, 'C': 0.1}, '	0.1044	0.1215	0.0838 ']
[{'gamma': 0.01, 'C': 0.2}, '	0.1204	0.1215	0.0950 ']
[{'gamma': 0.01, 'C': 0.5}, '	1.0000	0.4144	0.2682 ']
[{'gamma': 0.01, 'C': 0.7}, '	1.0000	1.0000	0.5866 ']
[{'gamma': 0.01, 'C': 1}, '	1.0000	1.0000	0.8715 ']
[{'gamma': 0.01, 'C': 2}, '	1.0000	1.0000	0.8771 ']
[{'gamma': 0.01, 'C': 5}, '	1.0000	1.0000	0.8771 ']
[{'gamma': 0.01, 'C': 7}, '	1.0000	1.0000	0.8771 ']
[{'gamma': 0.01, 'C': 10}, '	1.0000	1.0000	0.8771 ']
[{'gamma': 0.005, 'C': 0.1}, '	1.0000	1.0000	0.8771 ']
[{'gamma': 0.005, 'C': 0.2}, '	1.0000	1.0000	0.8771 ']
[{'gamma': 0.005, 'C': 0.5}, '	1.0000	1.0000	0.9274 ']
[{'gamma': 0.005, 'C': 0.7}, '	1.0000	1.0000	0.9497 ']
[{'gamma': 0.005, 'C': 1}, '	1.0000	1.0000	0.9553 ']
[{'gamma': 0.005, 'C': 2}, '	1.0000	1.0000	0.9553 ']
[{'gamma': 0.005, 'C': 5}, '	1.0000	1.0000	0.9553 ']
[{'gamma': 0.005, 'C': 7}, '	1.0000	1.0000	0.9553 ']
[{'gamma': 0.005, 'C': 10}, '	1.0000	1.0000	0.9553 ']
[{'gamma': 0.001, 'C': 0.1}, '	1.0000	1.0000	0.9609 ']
[{'gamma': 0.001, 'C': 0.2}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.001, 'C': 0.5}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.001, 'C': 0.7}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.001, 'C': 1}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.001, 'C': 2}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.001, 'C': 5}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.001, 'C': 7}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.001, 'C': 10}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 0.1}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 0.2}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 0.5}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 0.7}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 1}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 2}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 5}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 7}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0005, 'C': 10}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 0.1}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 0.2}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 0.5}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 0.7}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 1}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 2}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 5}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 7}, '	1.0000	1.0000	0.9888 ']
[{'gamma': 0.0001, 'C': 10}, '	1.0000	1.0000	0.9888 ']

Train Classification report for classifier SVC(C=0.5, gamma=0.01):

	precision	recall	f1-score	support
0	1.00	1.00	1.00	140
1	1.00	1.00	1.00	147
2	1.00	1.00	1.00	150
3	1.00	1.00	1.00	146
4	1.00	1.00	1.00	147
5	1.00	1.00	1.00	142
6	1.00	1.00	1.00	144
7	1.00	1.00	1.00	142
8	1.00	1.00	1.00	136
9	1.00	1.00	1.00	143
accuracy			1.00	1437
macro avg	1.00	1.00	1.00	1437
weighted avg	1.00	1.00	1.00	1437

Best Train hyperparameters were: {'gamma': 0.01, 'C': 0.5}

Validation Classification report for classifier SVC(C=0.7, gamma=0.01):

	precision	recall	f1-score	support
0	1.00	1.00	1.00	22
1	1.00	1.00	1.00	15
2	1.00	1.00	1.00	12
3	1.00	1.00	1.00	20
4	1.00	1.00	1.00	21
5	1.00	1.00	1.00	18
6	1.00	1.00	1.00	18
7	1.00	1.00	1.00	17
8	1.00	1.00	1.00	21
9	1.00	1.00	1.00	17
accuracy			1.00	181
macro avg	1.00	1.00	1.00	181
weighted avg	1.00	1.00	1.00	181

Best Validation hyperparameters were: {'gamma': 0.01, 'C': 0.7}

Test Classification report for classifier SVC(C=0.2, gamma=0.001):

	precision	recall	f1-score	support
0	1.00	1.00	1.00	16
1	1.00	1.00	1.00	20
2	1.00	1.00	1.00	15
3	1.00	0.88	0.94	17
4	1.00	1.00	1.00	13
5	1.00	1.00	1.00	22
6	1.00	1.00	1.00	19
7	0.95	1.00	0.98	20
8	0.94	1.00	0.97	17
9	1.00	1.00	1.00	20
accuracy			0.99	179
macro avg	0.99	0.99	0.99	179
weighted avg	0.99	0.99	0.99	179

Best Test hyperparameters were: {'gamma': 0.001, 'C': 0.2}