

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	2	9	9	0	0	0
4	0	6	85	62	10	0	0
5	0	5	600	784	68	0	0
6	0	0	453	1481	261	3	0
7	0	1	54	523	302	0	0
8	0	0	10	73	75	17	0
9	0	0	0	5	0	0	0

Table 1: 5-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	11	9	0	0	0
4	0	5	73	80	5	0	0
5	0	2	459	959	37	0	0
6	0	0	335	1698	165	0	0
7	0	0	38	663	179	0	0
8	0	0	5	106	64	0	0
9	0	0	0	5	0	0	0

Table 2: 10-NN cross validation

0.1 Leave-one-out cross validations of k-NN

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	10	10	0	0	0
4	0	2	78	81	2	0	0
5	0	2	483	936	36	0	0
6	0	0	352	1680	166	0	0
7	0	0	45	670	165	0	0
8	0	0	5	125	45	0	0
9	0	0	0	4	1	0	0

Table 3: 15-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	9	11	0	0	0
4	0	0	73	89	1	0	0
5	0	0	395	1040	22	0	0
6	0	0	287	1787	124	0	0
7	0	0	35	735	110	0	0
8	0	0	4	142	29	0	0
9	0	0	0	5	0	0	0

Table 4: 20-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	8	12	0	0	0
4	0	0	76	86	1	0	0
5	0	0	432	1001	24	0	0
6	0	0	302	1794	102	0	0
7	0	0	47	723	110	0	0
8	0	0	4	140	31	0	0
9	0	0	0	5	0	0	0

Table 5: 25-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	8	12	0	0	0
4	0	0	63	99	1	0	0
5	0	0	355	1087	15	0	0
6	0	0	269	1848	81	0	0
7	0	0	32	758	90	0	0
8	0	0	4	150	21	0	0
9	0	0	0	5	0	0	0

Table 6: 30-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	8	12	0	0	0
4	0	0	62	100	1	0	0
5	0	0	357	1086	14	0	0
6	0	0	276	1844	78	0	0
7	0	0	35	774	71	0	0
8	0	0	0	157	18	0	0
9	0	0	0	5	0	0	0

Table 7: 35-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	9	11	0	0	0
4	0	0	60	102	1	0	0
5	0	0	319	1129	9	0	0
6	0	0	221	1910	67	0	0
7	0	0	30	800	50	0	0
8	0	0	0	157	18	0	0
9	0	0	0	5	0	0	0

Table 8: 40-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	8	12	0	0	0
4	0	0	65	97	1	0	0
5	0	0	330	1117	10	0	0
6	0	0	240	1896	62	0	0
7	0	0	35	787	58	0	0
8	0	0	4	157	14	0	0
9	0	0	0	5	0	0	0

Table 9: 45-NN cross validation

True class	Predicted class						
	3	4	5	6	7	8	9
3	0	0	8	12	0	0	0
4	0	0	62	100	1	0	0
5	0	0	298	1151	8	0	0
6	0	0	222	1930	46	0	0
7	0	0	29	808	43	0	0
8	0	0	3	163	9	0	0
9	0	0	0	5	0	0	0

Table 10: 50-NN cross validation