

KNN CLAS

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Abstract—
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I. INTRODUCTION

II. METHODOLOGY

III. RESULTS

Dataset	Samples	Features	Accuracy			
			nn-clas	1nn-clas	3nn-clas	5nn-clas
Ionosphere	351	34	0.87	0.85	0.87	0.87
Binary Digits	360	64	1.00	0.52	0.52	0.52
Haberman	306	3	0.71	0.68	0.69	0.69
Pima Diabetes	768	8	0.73	0.52	0.52	0.52
Banknote	1372	4	1.00	0.99	0.99	0.99
Sonar	208	60	0.77	0.85	0.83	0.81
Breast Cancer	569	30	0.93	0.39	0.39	0.39
SPECT Heart	349	44	0.70	0.95	0.95	0.95

TABLE I
MODEL ACCURACY COMPARISON

Dataset	Samples	Features	Training (ms)		Prediction (ms)			
			nn-clas	knn-clas	nn-clas	1nn	3nn	5nn
Ionosphere	351	34	70.90	27.10	2.90	3.00	3.00	3.40
Binary Digits	360	64	267.70	103.40	3.30	4.20	3.90	4.10
Haberman	306	3	19.40	10.10	2.50	2.90	3.00	2.90
Pima Diabetes	768	8	77.30	32.40	2.70	5.10	4.90	4.90
Banknote	1372	4	296.50	50.90	3.00	3.70	3.40	4.00
Sonar	208	60	67.00	29.10	3.00	3.00	2.90	2.90
Breast Cancer	569	30	75.50	15.80	2.90	3.50	3.10	3.50
SPECT Heart	349	44	197.30	75.70	3.00	3.60	3.40	3.20

TABLE II
TRAINING AND PREDICTION TIMES

IV. DISCUSSION

ACKNOWLEDGMENT

REFERENCES

REFERENCES

- [1] T. Cover and P. Hart, "Nearest neighbor pattern classification," in IEEE Transactions on Information Theory, vol. 13, no. 1, pp. 21-27, Jan. 1967.
- [2] D. Dua and C. Graff, "UCI Machine Learning Repository," [Online]. Available: <http://archive.ics.uci.edu/ml>, 2017.
- [3] J. Kennedy and R. Eberhart, "Particle swarm optimization," in Proceedings of ICNN'95 - International Conference on Neural Networks, Perth, WA, Australia, 1995, pp. 1942-1948.