

Feature descriptor	Recognition rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	78.33	79.17	71.67	84.17	70.83
Dimensionality reduction	57.92	57.92	49.17	54.58	31.67
Gabor vector	24.58	15.00	83.33	83.33	79.58
HOG vector	52.08	67.50	70.42	75.42	85.42

Feature descriptor	Recall rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	90.00	85.00	80.00	95.00	69.00
Dimensionality reduction	65.50	65.50	55.50	62.00	31.00
Gabor vector	11.00	0.50	100.00	100.00	77.50
HOG vector	59.50	77.50	83.00	89.50	86.50

Feature descriptor	Precision rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	84.91	89.47	85.11	87.16	94.52
Dimensionality reduction	80.37	80.37	77.08	78.98	70.45
Gabor vector	88.00	16.67	83.33	83.33	97.48
HOG vector	77.78	82.45	81.77	82.49	95.58

Feature descriptor	Specificity rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	20.00	50.00	30.00	30.00	80.00
Dimensionality reduction	20.00	20.00	17.50	17.50	35.00
Gabor vector	92.50	87.50	0.00	0.00	90.00
HOG vector	15.00	17.50	7.50	5.00	80.00

Feature descriptor	F1 rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	87.38	87.18	82.47	90.91	79.77
Dimensionality reduction	72.18	72.18	64.53	69.47	43.06
Gabor vector	19.56	97.09	90.91	90.91	86.35
HOG vector	67.42	79.90	82.38	85.85	90.81

Feature descriptor	False alarm rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	80.00	50.00	70.00	70.00	20.00
Dimensionality reduction	80.00	80.00	82.50	82.50	65.00
Gabor vector	7.50	12.50	100.00	100.00	10.00
HOG vector	85.00	82.50	92.50	95.00	20.00

Using 10-fold cross-validation:

Feature descriptor	Recognition rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	98.68	96.59	95.60	92.09	84.18
Dimensionality reduction	96.48	94.95	93.96	90.88	70.88
Gabor vector	94.51	93.30	91.87	88.68	97.03
HOG vector	88.57	85.05	83.08	80.55	88.57

Feature descriptor	Recall rate of model (%)				
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	SVM
Full image	99.86	100.00	100.00	99.86	90.43
Dimensionality reduction	100.00	100.00	100.00	100.00	75.94
Gabor vector	100.00	100.00	100.00	100.00	99.13
HOG vector	100.00	100.00	100.00	100.00	100.00

Feature descriptor	Precision rate of model (%)				SVM
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	
Full image	98.00	95.30	94.12	91.49	88.89
Dimensionality reduction	95.57	93.75	92.62	89.26	84.11
Gabor vector	93.24	91.88	90.31	87.01	97.02
HOG vector	86.90	83.54	81.75	79.58	86.90

Feature descriptor	Specificity rate of model (%)				SVM
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	
Full image	93.63	84.54	80.45	70.91	64.54
Dimensionality reduction	85.45	79.09	75.00	62.27	55.00
Gabor vector	77.27	72.27	66.36	53.18	90.45
HOG vector	52.73	38.18	30.00	19.55	52.73

Feature descriptor	F1 rate of model (%)				SVM
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	
Full image	98.78	97.60	96.83	95.42	89.66
Dimensionality reduction	97.73	96.77	96.17	94.33	79.82
Gabor vector	96.50	95.77	94.91	93.05	98.06
HOG vector	92.99	91.03	89.96	88.63	92.99

Feature descriptor	False alarm rate of model (%)				SVM
	KNN (k=1)	KNN (k=3)	KNN (k=5)	KNN (k=10)	
Full image	6.36	15.45	19.54	29.09	35.45
Dimensionality reduction	14.54	20.91	25.00	37.73	45.00
Gabor vector	22.73	27.73	33.64	46.82	9.55
HOG vector	47.27	61.82	70.00	80.45	47.27

