

Table 1: The influence of the parameter σ (scale of the derivative of Gaussian function) on the classification results (EO method).

Database	Parameter σ	Accuracy [%]
TC 00000 (128×128)	0.5	91.66
	1.0	95.00
	1.5	92.91
	2.0	89.58
	2.5	80.83
TC 00001 (64×64)	0.5	78.21
	1.0	69.78
	1.5	65.43
	2.0	47.91
	2.5	33.33
BD 00000 (256×256)	0.5	91.66
	1.0	83.33
	1.5	75.00
	2.0	72.22
	2.5	81.94
BD 00001 (128×128)	0.5	94.44
	1.0	93.40
	1.5	92.36
	2.0	90.97
	2.5	82.63

Table 2. The effect of the widow size on the classification results.

Database	Window size (Ω)	EO Accuracy [%]	SOH Accuracy [%]
TC 00000 (128×128)	3×3	97.08	81.25
	7×7	95.00	70.41
	11×11	84.16	59.58
TC 00001 (64×64)	3×3	95.54	68.75
	7×7	87.50	62.78
	11×11	78.21	49.90
BD 00000 (256×256)	3×3	97.22	98.61
	7×7	91.66	86.11
	11×11	84.72	80.55
BD 00001 (128×128)	3×3	99.30	96.52
	7×7	94.44	87.50
	11×11	93.75	76.04
BD 00002 (64×64)	3×3	94.96	84.04
	7×7	88.11	78.14
	11×11	85.51	70.94

Table 3. Multi-resolution classification results.

Database	Window size (Ω)	EO Accuracy [%]	SOH Accuracy [%]
TC 00000 (128×128)	3×3 + 5×5	99.16	93.75
	3×3 + 5×5 + 7×7	99.16	92.08
	3×3 + 5×5 + 7×7 + 9×9	97.91	90.41
	3×3 + 5×5 + 7×7 + 9×9 + 11×11	93.33	88.33
TC 00001 (64×64)	3×3 + 5×5	96.11	80.20
	3×3 + 5×5 + 7×7	95.54	82.19
	3×3 + 5×5 + 7×7 + 9×9	94.22	81.06
	3×3 + 5×5 + 7×7 + 9×9 + 11×11	92.99	81.34
BD 00000 (256×256)	3×3 + 5×5	100	97.22
	3×3 + 5×5 + 7×7	100	95.83
	3×3 + 5×5 + 7×7 + 9×9	100	88.88
	3×3 + 5×5 + 7×7 + 9×9 + 11×11	97.22	90.27
BD 00001 (128×128)	3×3 + 5×5	100	96.87
	3×3 + 5×5 + 7×7	99.65	94.79
	3×3 + 5×5 + 7×7 + 9×9	99.65	95.13
	3×3 + 5×5 + 7×7 + 9×9 + 11×11	96.87	94.79
BD 00002 (64×64)	3×3 + 5×5	95.05	88.46
	3×3 + 5×5 + 7×7	94.62	88.98
	3×3 + 5×5 + 7×7 + 9×9	94.27	88.55
	3×3 + 5×5 + 7×7 + 9×9 + 11×11	92.97	89.67

Table 4. Multi-resolution classification results (SOH) – other scale combinations.

Database	Window size (Ω)	SOH Accuracy [%]
TC 00000 (128×128)	5×5 + 7×7	84.16
	5×5 + 7×7 + 9×9	83.33
	7×7 + 9×9	72.91
	7×7+9×9+11×11	73.75
	9×9+11×11	67.08
TC 00001 (64×64)	5×5 + 7×7	72.72
	5×5 + 7×7 + 9×9	71.21
	7×7 + 9×9	60.03
	7×7+9×9+11×11	60.22
	9×9+11×11	46.11
BD 00000 (256×256)	5×5 + 7×7	93.05
	5×5 + 7×7 + 9×9	91.66
	7×7 + 9×9	83.33
	7×7+9×9+11×11	87.50
	9×9+11×11	81.94
BD 00001 (128×128)	5×5 + 7×7	92.36
	5×5 + 7×7 + 9×9	90.62
	7×7 + 9×9	88.54
	7×7+9×9+11×11	88.88
	9×9+11×11	81.59
BD 00002 (64×64)	5×5 + 7×7	84.38
	5×5 + 7×7 + 9×9	83.34
	7×7 + 9×9	76.75
	7×7+9×9+11×11	77.71
	9×9+11×11	71.11