

Table 1: Results for the datasets Balance, Basketball, Bolts, Coil2000, Fars, House16H, Ionosphere, Magic, Movement Libras, Optdigits, Pollution, Quake y Satimage in the comparison with NGAs

Algorithm	#R	$AvSup(\sigma)$	$AvConf(\sigma)$	$AvLift(\sigma)$	$AvConv$	$AvCF(\sigma)$	$AvNetConf(\sigma)$	$AvYulesQ(\sigma)$	$AvAmp(\sigma)$	$AvDiv(\sigma)$	$\%Tran(\sigma)$
Balance											
Clearing	24.20	0.08 (0.05)	0.82 (0.10)	2.74 (1.15)	∞	0.68 (0.21)	0.49 (0.18)	0.73 (0.17)	3.47 (0.94)	0.73 (0.04)	89.48 (10.20)
ASCGA	21.20	0.09 (0.03)	0.73 (0.05)	2.30 (0.44)	∞	0.54 (0.07)	0.39 (0.08)	0.62 (0.09)	3.34 (0.24)	0.74 (0.05)	75.01 (21.02)
NICGAR	26.40	0.06 (0.02)	0.92 (0.03)	4.25 (0.44)	∞	0.86 (0.04)	0.69 (0.03)	0.91 (0.02)	3.81 (0.18)	0.82 (0.02)	89.96 (2.19)
Basketball											
Clearing	57.00	0.03 (0.01)	0.98 (0.02)	32.87 (9.48)	∞	0.97 (0.03)	0.91 (0.03)	0.99 (0.01)	2.00 (0.01)	0.99 (0.00)	84.17 (8.12)
ASCGA	10.00	0.09 (0.07)	0.97 (0.03)	14.81 (11.66)	∞	0.94 (0.05)	0.83 (0.07)	0.98 (0.02)	2.04 (0.05)	0.81 (0.16)	35.84 (9.84)
NICGAR	49.80	0.04 (0.01)	0.99 (0.01)	9.43 (2.53)	∞	0.98 (0.02)	0.80 (0.04)	0.99 (0.01)	2.15 (0.09)	0.95 (0.01)	91.67 (4.04)
Bolts											
Clearing	21.80	0.13 (0.07)	0.96 (0.04)	9.50 (4.16)	∞	0.94 (0.05)	0.84 (0.05)	0.98 (0.02)	2.06 (0.10)	0.87 (0.06)	99.00 (1.37)
ASCGA	15.60	0.18 (0.04)	0.96 (0.03)	4.91 (2.43)	∞	0.93 (0.05)	0.82 (0.06)	0.97 (0.03)	2.42 (0.29)	0.74 (0.10)	89.00 (16.73)
NICGAR	9.80	0.30 (0.04)	0.98 (0.02)	5.51 (1.66)	∞	0.98 (0.02)	0.93 (0.03)	1.00 (0.00)	2.00 (0.00)	0.82 (0.02)	100.00 (0.00)
Coil2000											
Clearing	18.60	0.23 (0.10)	0.80 (0.06)	5.93 (5.20)	∞	0.69 (0.08)	0.63 (0.05)	0.85 (0.06)	2.08 (0.12)	0.75 (0.04)	99.81 (0.36)
ASCGA	29.00	0.22 (0.07)	0.63 (0.02)	4.21 (5.46)	∞	0.38 (0.05)	0.32 (0.05)	0.54 (0.04)	2.71 (0.26)	0.81 (0.03)	99.62 (0.82)
NICGAR	25.40	0.28 (0.03)	0.93 (0.02)	3.65 (0.51)	∞	0.89 (0.03)	0.86 (0.03)	0.98 (0.01)	2.04 (0.04)	0.82 (0.03)	99.96 (0.10)
Fars											
Clearing	21.60	0.30 (0.07)	0.93 (0.02)	12.92 (16.92)	∞	0.87 (0.04)	0.85 (0.04)	0.93 (0.05)	2.20 (0.04)	0.68 (0.04)	92.87 (15.06)
ASCGA	22.60	0.22 (0.05)	0.78 (0.09)	8.11 (8.17)	∞	0.61 (0.12)	0.56 (0.11)	0.71 (0.14)	2.51 (0.21)	0.79 (0.02)	99.48 (1.17)
NICGAR	12.60	0.31 (0.05)	0.99 (0.00)	5.67 (0.58)	∞	0.99 (0.01)	0.98 (0.02)	1.00 (0.00)	2.02 (0.04)	0.81 (0.04)	100.00 (0.00)
House16H											
Clearing	24.60	0.09 (0.06)	0.81 (0.05)	13.12 (8.20)	∞	0.74 (0.04)	0.69 (0.06)	0.55 (0.22)	2.09 (0.07)	0.72 (0.09)	83.41 (21.75)
ASCGA	11.60	0.14 (0.06)	0.75 (0.13)	14.42 (24.64)	∞	0.63 (0.19)	0.57 (0.20)	0.70 (0.07)	2.27 (0.31)	0.70 (0.08)	68.69 (16.64)
NICGAR	6.00	0.24 (0.04)	0.92 (0.00)	3.67 (0.71)	15.00	0.88 (0.01)	0.83 (0.01)	0.98 (0.00)	2.00 (0.00)	0.86 (0.02)	82.18 (13.91)
Ionosphere											
Clearing	41.00	0.07 (0.02)	0.94 (0.02)	55.85 (25.71)	∞	0.91 (0.03)	0.86 (0.05)	0.98 (0.01)	2.01 (0.02)	0.92 (0.03)	92.03 (4.34)
ASCGA	13.00	0.18 (0.04)	0.78 (0.07)	3.13 (0.64)	∞	0.67 (0.11)	0.59 (0.09)	0.88 (0.08)	2.43 (0.13)	0.82 (0.07)	82.51 (17.39)
NICGAR	24.80	0.20 (0.02)	0.85 (0.01)	3.77 (0.59)	∞	0.78 (0.02)	0.74 (0.02)	0.96 (0.00)	2.01 (0.02)	0.88 (0.01)	99.83 (0.15)
Letter											
Clearing	17.40	0.16 (0.03)	0.87 (0.03)	7.28 (1.87)	∞	0.77 (0.03)	0.72 (0.05)	0.93 (0.01)	2.11 (0.08)	0.81 (0.04)	98.26 (1.59)
ASCGA	15.00	0.18 (0.09)	0.74 (0.06)	4.61 (0.76)	∞	0.59 (0.08)	0.57 (0.09)	0.82 (0.07)	2.40 (0.25)	0.76 (0.07)	85.47 (24.98)
NICGAR	18.80	0.15 (0.02)	0.89 (0.02)	5.94 (1.31)	∞	0.84 (0.03)	0.76 (0.04)	0.96 (0.01)	2.01 (0.02)	0.87 (0.01)	98.17 (1.62)
Magic											
Clearing	9.80	0.34 (0.18)	0.93 (0.01)	2.81 (0.64)	10.38	0.79 (0.24)	0.85 (0.03)	0.99 (0.01)	2.01 (0.02)	0.77 (0.16)	99.55 (0.32)
ASCGA	9.20	0.22 (0.09)	0.89 (0.06)	2.88 (0.35)	14.25	0.82 (0.08)	0.72 (0.05)	0.92 (0.07)	2.02 (0.05)	0.57 (0.18)	69.57 (15.76)
NICGAR	6.60	0.26 (0.01)	0.94 (0.01)	3.00 (0.06)	15.30	0.91 (0.02)	0.85 (0.01)	0.99 (0.01)	2.00 (0.00)	0.85 (0.01)	94.87 (4.93)
Movement Libras											
Clearing	23.60	0.24 (0.01)	0.94 (0.03)	5.11 (2.50)	∞	0.90 (0.04)	0.88 (0.04)	0.98 (0.02)	2.00 (0.00)	0.87 (0.01)	99.95 (0.12)
ASCGA	20.80	0.21 (0.06)	0.82 (0.11)	2.81 (0.65)	∞	0.70 (0.18)	0.63 (0.21)	0.83 (0.15)	2.57 (0.51)	0.84 (0.05)	94.73 (11.34)
NICGAR	27.80	0.27 (0.01)	0.98 (0.00)	3.64 (0.05)	∞	0.97 (0.01)	0.95 (0.01)	1.00 (0.00)	2.00 (0.00)	0.86 (0.00)	100.00 (0.00)
Optdigits											
Clearing	17.80	0.22 (0.12)	0.84 (0.06)	5.05 (3.47)	∞	0.69 (0.14)	0.65 (0.07)	0.84 (0.05)	2.07 (0.16)	0.76 (0.07)	96.82 (4.63)
ASCGA	23.80	0.23 (0.07)	0.67 (0.04)	2.07 (0.55)	∞	0.40 (0.08)	0.37 (0.04)	0.60 (0.07)	2.44 (0.14)	0.80 (0.03)	98.99 (1.06)
NICGAR	28.80	0.28 (0.02)	0.87 (0.02)	3.24 (0.40)	∞	0.75 (0.05)	0.71 (0.01)	0.95 (0.01)	2.05 (0.04)	0.82 (0.02)	100.00 (0.00)
Penbased											
Clearing	16.80	0.15 (0.04)	0.82 (0.05)	4.22 (2.14)	∞	0.73 (0.08)	0.63 (0.08)	0.87 (0.05)	2.06 (0.06)	0.84 (0.02)	98.08 (1.10)
ASCGA	19.80	0.22 (0.04)	0.76 (0.02)	2.20 (0.31)	∞	0.60 (0.05)	0.53 (0.04)	0.82 (0.05)	2.12 (0.06)	0.66 (0.20)	94.04 (6.20)
NICGAR	15.00	0.18 (0.02)	0.89 (0.01)	3.64 (0.77)	∞	0.83 (0.02)	0.73 (0.03)	0.95 (0.01)	2.06 (0.10)	0.88 (0.02)	98.64 (0.92)
Pollution											
Clearing	48.60	0.05 (0.01)	0.98 (0.03)	18.68 (3.55)	∞	0.97 (0.04)	0.90 (0.04)	0.99 (0.03)	2.01 (0.02)	0.96 (0.01)	90.34 (8.53)
ASCGA	13.00	0.13 (0.07)	0.95 (0.05)	9.54 (3.87)	∞	0.92 (0.06)	0.83 (0.06)	0.98 (0.03)	2.16 (0.23)	0.85 (0.10)	72.67 (22.69)
NICGAR	57.80	0.08 (0.01)	0.98 (0.01)	8.35 (1.33)	∞	0.97 (0.01)	0.84 (0.02)	1.00 (0.00)	2.07 (0.05)	0.93 (0.01)	100.00 (0.00)
Quake											
Clearing	33.20	0.03 (0.03)	0.86 (0.08)	38.81 (28.61)	∞	0.84 (0.09)	0.76 (0.11)	0.84 (0.13)	2.00 (0.00)	0.88 (0.06)	75.42 (14.14)
ASCGA	4.60	0.28 (0.13)	0.84 (0.06)	3.39 (2.64)	5.64	0.72 (0.12)	0.66 (0.07)	0.87 (0.08)	2.08 (0.18)	0.62 (0.12)	72.51 (25.18)
NICGAR	3.60	0.28 (0.05)	0.90 (0.01)	2.51 (0.80)	11.40	0.81 (0.02)	0.72 (0.02)	0.95 (0.01)	2.00 (0.00)	0.75 (0.03)	83.15 (1.70)
Satimage											
Clearing	15.20	0.25 (0.03)	0.92 (0.02)	5.00 (3.32)	∞	0.86 (0.03)	0.80 (0.03)	0.98 (0.01)	2.01 (0.03)	0.82 (0.01)	96.34 (6.91)
ASCGA	30.60	0.37 (0.04)	0.83 (0.05)	2.69 (0.10)	∞	0.66 (0.05)	0.66 (0.06)	0.93 (0.01)	2.39 (0.15)	0.71 (0.02)	100.00 (0.00)
NICGAR	24.00	0.24 (0.01)	0.92 (0.01)	3.83 (0.31)	12.27	0.88 (0.01)	0.85 (0.01)	0.99 (0.00)	2.00 (0.00)	0.82 (0.01)	93.94 (2.29)

Table 2: Results for the datasets Segment, Sonar, Spambase, Stock, Stulong, Texture, Wine, Wdbc y Vowel in the comparison with NGAs

Algorithm	#R	$Av_{Sup}(\sigma)$	$Av_{Conf}(\sigma)$	$Av_{Lif}(\sigma)$	Av_{Conv}	$Av_{CF}(\sigma)$	$Av_{NetConf}(\sigma)$	$Av_{YulesQ}(\sigma)$	$Av_{Amp}(\sigma)$	$Av_{Div}(\sigma)$	$\%Tran(\sigma)$
Segment											
Clearing	11.80	0.20 (0.01)	0.93 (0.05)	4.41 (0.80)	∞	0.91 (0.07)	0.88 (0.08)	0.94 (0.09)	2.02 (0.04)	0.86 (0.03)	98.09 (3.04)
ASCGA	16.00	0.25 (0.06)	0.86 (0.05)	3.38 (0.69)	∞	0.79 (0.05)	0.74 (0.10)	0.88 (0.08)	2.25 (0.18)	0.77 (0.05)	98.76 (1.42)
NICGAR	12.60	0.22 (0.01)	0.99 (0.01)	4.91 (0.43)	∞	0.98 (0.01)	0.97 (0.01)	1.00 (0.00)	2.00 (0.00)	0.88 (0.01)	99.76 (0.26)
Sonar											
Clearing	51.40	0.06 (0.03)	0.96 (0.02)	57.68 (14.37)	∞	0.93 (0.03)	0.91 (0.03)	0.99 (0.01)	2.00 (0.00)	0.94 (0.03)	87.02 (22.84)
ASCGA	18.20	0.20 (0.06)	0.77 (0.11)	4.12 (2.92)	∞	0.58 (0.19)	0.51 (0.18)	0.74 (0.17)	2.57 (0.43)	0.85 (0.04)	95.48 (6.32)
NICGAR	22.80	0.26 (0.03)	0.89 (0.02)	7.56 (5.59)	∞	0.81 (0.02)	0.77 (0.02)	0.97 (0.01)	2.01 (0.02)	0.84 (0.02)	100.00 (0.00)
Spambase											
Clearing	32.40	0.09 (0.12)	0.89 (0.05)	115.83 (93.33)	∞	0.83 (0.09)	0.81 (0.10)	0.88 (0.09)	2.03 (0.04)	0.84 (0.14)	85.01 (23.67)
ASCGA	20.20	0.19 (0.03)	0.75 (0.06)	20.22 (20.15)	∞	0.59 (0.04)	0.45 (0.10)	0.72 (0.08)	2.72 (0.33)	0.78 (0.04)	95.85 (6.84)
NICGAR	11.20	0.12 (0.02)	0.95 (0.02)	73.02 (28.16)	∞	0.90 (0.03)	0.87 (0.04)	0.98 (0.01)	2.00 (0.00)	0.84 (0.05)	76.75 (31.96)
Spectfheart											
Clearing	39.00	0.12 (0.08)	0.97 (0.02)	61.20 (11.76)	∞	0.91 (0.06)	0.94 (0.03)	0.99 (0.01)	2.01 (0.01)	0.86 (0.06)	86.22 (30.82)
ASCGA	12.60	0.37 (0.10)	0.89 (0.03)	18.04 (10.86)	∞	0.68 (0.10)	0.80 (0.07)	0.95 (0.03)	2.17 (0.19)	0.71 (0.11)	99.25 (1.09)
NICGAR	72.20	0.13 (0.01)	0.98 (0.00)	29.01 (4.73)	∞	0.92 (0.00)	0.92 (0.02)	1.00 (0.00)	2.03 (0.05)	0.89 (0.02)	100.00 (0.00)
Stock											
Clearing	14.60	0.21 (0.07)	0.91 (0.05)	16.56 (18.61)	∞	0.86 (0.07)	0.78 (0.04)	0.96 (0.04)	2.06 (0.10)	0.84 (0.05)	99.41 (0.98)
ASCGA	8.00	0.28 (0.09)	0.90 (0.06)	2.70 (0.46)	∞	0.85 (0.09)	0.79 (0.11)	0.95 (0.05)	2.18 (0.24)	0.70 (0.13)	81.04 (11.23)
NICGAR	9.20	0.28 (0.02)	0.95 (0.01)	3.01 (0.18)	∞	0.93 (0.02)	0.87 (0.01)	0.99 (0.00)	2.07 (0.07)	0.86 (0.02)	99.41 (0.23)
Stulong											
Clearing	10.60	0.23 (0.12)	0.87 (0.02)	29.51 (43.04)	∞	0.68 (0.10)	0.75 (0.11)	0.94 (0.04)	2.10 (0.14)	0.72 (0.10)	97.20 (1.52)
ASCGA	7.40	0.16 (0.03)	0.79 (0.01)	9.08 (7.99)	3.44	0.71 (0.02)	0.65 (0.01)	0.92 (0.01)	2.00 (0.00)	0.45 (0.05)	44.93 (23.77)
NICGAR	4.20	0.26 (0.07)	0.79 (0.03)	16.82 (19.90)	∞	0.62 (0.08)	0.64 (0.06)	0.90 (0.03)	2.04 (0.09)	0.78 (0.06)	84.99 (7.01)
Texture											
Clearing	15.20	0.29 (0.04)	0.93 (0.02)	3.14 (0.32)	19.47	0.89 (0.03)	0.86 (0.04)	0.98 (0.02)	2.01 (0.03)	0.83 (0.02)	97.26 (5.77)
ASCGA	16.40	0.29 (0.04)	0.90 (0.04)	35.96 (56.31)	∞	0.81 (0.07)	0.75 (0.06)	0.93 (0.06)	2.37 (0.28)	0.76 (0.09)	98.23 (2.05)
NICGAR	17.40	0.27 (0.02)	0.97 (0.00)	3.72 (0.39)	∞	0.95 (0.00)	0.92 (0.01)	1.00 (0.00)	2.00 (0.00)	0.82 (0.02)	95.85 (4.66)
Thyroid											
Clearing	27.00	0.11 (0.16)	0.87 (0.08)	16.05 (9.81)	∞	0.76 (0.21)	0.77 (0.08)	0.81 (0.10)	2.48 (0.38)	0.73 (0.12)	72.81 (40.62)
ASCGA	20.20	0.17 (0.07)	0.74 (0.06)	6.14 (4.15)	∞	0.53 (0.11)	0.38 (0.16)	0.56 (0.16)	2.64 (0.43)	0.71 (0.09)	88.64 (13.24)
NICGAR	6.20	0.23 (0.07)	0.93 (0.02)	14.29 (9.46)	∞	0.80 (0.07)	0.85 (0.02)	0.95 (0.05)	2.02 (0.05)	0.79 (0.05)	98.16 (2.30)
Wdbc											
Clearing	18.80	0.19 (0.05)	0.92 (0.04)	48.87 (36.99)	∞	0.88 (0.06)	0.84 (0.07)	0.97 (0.03)	2.00 (0.00)	0.86 (0.01)	99.51 (0.62)
ASCGA	13.80	0.26 (0.04)	0.81 (0.08)	3.18 (1.52)	∞	0.68 (0.14)	0.62 (0.17)	0.81 (0.13)	2.37 (0.35)	0.78 (0.10)	97.62 (2.44)
NICGAR	13.60	0.27 (0.03)	0.96 (0.02)	3.49 (0.39)	∞	0.93 (0.04)	0.90 (0.03)	0.99 (0.01)	2.00 (0.00)	0.84 (0.01)	98.53 (2.10)
Vehicle											
Clearing	13.00	0.26 (0.05)	0.96 (0.02)	5.21 (3.69)	∞	0.93 (0.04)	0.89 (0.04)	0.97 (0.04)	2.00 (0.00)	0.84 (0.03)	99.95 (0.10)
ASCGA	13.80	0.25 (0.03)	0.92 (0.05)	3.35 (0.57)	∞	0.87 (0.07)	0.84 (0.08)	0.96 (0.04)	2.08 (0.08)	0.76 (0.05)	96.86 (2.81)
NICGAR	12.80	0.27 (0.03)	0.97 (0.01)	3.46 (0.26)	∞	0.95 (0.02)	0.92 (0.01)	1.00 (0.00)	2.00 (0.00)	0.86 (0.02)	99.98 (0.05)
Wine											
Clearing	23.20	0.14 (0.10)	0.94 (0.07)	19.43 (18.27)	∞	0.91 (0.09)	0.83 (0.11)	0.97 (0.05)	2.02 (0.03)	0.92 (0.09)	93.49 (7.39)
ASCGA	8.40	0.25 (0.04)	0.88 (0.06)	3.70 (2.98)	∞	0.79 (0.11)	0.73 (0.11)	0.92 (0.07)	2.17 (0.25)	0.78 (0.07)	83.71 (21.15)
NICGAR	6.60	0.28 (0.01)	0.94 (0.01)	2.79 (0.18)	∞	0.90 (0.02)	0.84 (0.02)	0.99 (0.01)	2.00 (0.00)	0.86 (0.00)	94.61 (0.85)
Vowel											
Clearing	51.60	0.23 (0.40)	0.96 (0.02)	92.68 (69.98)	∞	0.78 (0.33)	0.91 (0.04)	0.50 (0.15)	2.02 (0.02)	0.81 (0.21)	92.10 (8.89)
ASCGA	15.40	0.19 (0.07)	0.79 (0.07)	4.41 (3.00)	∞	0.68 (0.12)	0.59 (0.12)	0.81 (0.11)	2.40 (0.22)	0.77 (0.08)	92.89 (12.00)
NICGAR	8.40	0.27 (0.11)	0.95 (0.05)	5.81 (2.57)	∞	0.92 (0.07)	0.89 (0.08)	0.95 (0.09)	2.02 (0.05)	0.85 (0.01)	100.00 (0.00)