

# **Multi-strategies Boosted Mutative Crow Search Algorithm for Global Tasks: Cases of Continuous and Discrete Optimization**

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## Scalability Test

**Table 1** Scalability test results

F	Method	Dim=50		Dim=100	
		Avg	Std	Avg	Std
F1	CCMSCSA	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	CSA	2.7686E+00	8.1881E-01	5.9258E+00	9.0794E-01
F2	CCMSCSA	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	CSA	3.2905E-01	1.1239E-01	9.0295E+01	1.6846E+01
F3	CCMSCSA	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	CSA	3.4879E+00	6.5880E-01	6.8258E+00	9.5948E-01
F4	CCMSCSA	6.0072E+03	2.2964E+03	2.4639E+04	6.8562E+03
	CSA	2.3343E+03	6.2090E+02	1.9862E+04	4.8605E+03
F5	CCMSCSA	6.3391E+02	3.9365E+00	6.9981E+02	5.3818E+00
	CSA	6.5907E+02	4.2644E+00	7.3957E+02	5.5838E+00
F6	CCMSCSA	9.0004E+02	2.2269E+01	1.2109E+03	3.3687E+01
	CSA	1.0809E+03	2.8681E+01	1.3980E+03	4.5179E+01
F7	CCMSCSA	1.9785E+03	2.5732E+02	8.7977E+03	1.0286E+03
	CSA	7.7797E+03	8.0010E+02	1.6743E+04	1.3860E+03
F8	CCMSCSA	1.4003E+03	3.1190E-02	1.4004E+03	3.2193E-02
	CSA	1.4003E+03	1.0396E-01	1.4004E+03	1.1784E-01
F9	CCMSCSA	1.6194E+03	9.5156E-01	1.6429E+03	8.3230E-01
	CSA	1.6214E+03	6.0354E-01	1.6441E+03	6.8592E-01
F10	CCMSCSA	4.0138E+03	3.7287E+03	3.8395E+04	1.8968E+05
	CSA	3.8827E+03	1.4280E+03	4.0826E+03	1.3667E+03
F11	CCMSCSA	4.1802E+03	1.5361E+03	2.2670E+04	5.9986E+03
	CSA	2.7331E+03	1.8214E+02	5.7054E+03	1.5332E+03
F12	CCMSCSA	2.5000E+03	0.0000E+00	2.5000E+03	0.0000E+00
	CSA	2.6527E+03	2.9364E+01	2.5412E+03	8.3660E+01
F13	CCMSCSA	2.6000E+03	0.0000E+00	2.6000E+03	0.0000E+00
	CSA	2.6629E+03	2.5094E+01	2.7154E+03	3.5940E+01
F14	CCMSCSA	3.1000E+03	0.0000E+00	3.1000E+03	0.0000E+00
	CSA	3.1272E+07	1.0601E+08	5.5773E+04	7.0182E+04
F15	CCMSCSA	3.2000E+03	0.0000E+00	3.2000E+03	0.0000E+00
	CSA	1.1493E+05	1.6329E+05	4.4007E+05	2.0071E+05