Table 1: Performance Results for Michalewicz$\backslash_1 0 D n_m 10 Problem$

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
Adam-Fast	-6.51	5.49×10^{-1}	-7.26	-5.40	145.7	45.0	0.003
Adam-AMSGrad	-5.72	8.19×10^{-1}	-7.10	-4.40	448.3	0.0	0.011
Adam	-5.72	5.61×10^{-1}	-6.26	-4.40	452.8	0.0	0.010
Adam-WeightDecay	-5.68	7.90×10^{-1}	-6.25	-3.54	181.8	0.0	0.004
GD-WeightDecay	-4.34	7.74×10^{-1}	-6.13	-2.65	95.0	0.0	0.003
GD-Momentum	-4.08	1.20	-5.36	-7.86×10^{-1}	44.0	0.0	0.001
QQN-GoldenSection	-4.02	1.07	-6.26	-1.51	869.3	0.0	0.016
L-BFGS-Conservative	-4.00	1.16	-6.26	-7.10×10^{-1}	650.1	0.0	0.011
QQN-StrongWolfe	-3.92	1.51	-6.26	-1.19	526.8	0.0	0.017
QQN-MoreThuente	-3.78	6.39×10^{-1}	-4.65	-2.54	456.1	0.0	0.015
GD-Nesterov	-3.75	1.20	-6.01	-1.84	26.4	0.0	0.001
QQN-Bisection-1	-3.71	8.77×10^{-1}	-5.32	-1.69	465.9	0.0	0.013
QQN-Backtracking	-3.52	1.08	-5.91	-1.74	667.2	0.0	0.022
QQN-Bisection-2	-3.50	1.57	-5.91	-9.51×10^{-1}	349.7	0.0	0.009
GD	-3.38	7.33×10^{-1}	-5.04	-1.97	17.5	0.0	0.000
QQN-CubicQuadraticInterpolation	-3.35	9.75×10^{-1}	-5.29	-1.31	391.5	0.0	0.016
Trust Region-Conservative	-3.04	4.85×10^{-1}	-4.14	-2.08	532.1	0.0	0.004
Trust Region-Adaptive	-2.97	1.12	-4.49	-6.68×10^{-1}	24.8	0.0	0.000
Trust Region-Standard	-2.68	9.73×10^{-1}	-4.30	-6.74×10^{-1}	11.8	0.0	0.000
L-BFGS-Aggressive	-1.42	7.10×10^{-1}	-3.47	5.27×10^{-2}	665.7	0.0	0.006
L-BFGS	-6.04×10^{-1}	5.31×10^{-1}	-1.68	-1.80×10^{-4}	58.0	0.0	0.001