Table 1: Performance Results for Michalewicz_5D_m10 Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
Adam	-2.46e0	5.04e-1	-2.71e0	-8.39e-1	474.6	80.0	0.010
Adam-Fast	-2.62e0	4.21e-1	-3.29e0	-1.68e0	70.8	65.0	0.002
Adam-AMSGrad	-2.17e0	6.28e-1	-2.71e0	-8.39e-1	439.6	55.0	0.011
GD	-2.00e0	7.11e-1	-2.69e0	-8.39e-1	738.0	45.0	0.019
QQN-Bisection-2	-1.78e0	8.34e-1	-2.85e0	-2.09e-4	1315.8	35.0	0.032
L-BFGS-Conservative	-1.78e0	7.13e-1	-2.69e0	-8.39e-1	1302.2	30.0	0.027
QQN-StrongWolfe	-1.76e0	7.40e-1	-2.79e0	-5.69e-5	1288.2	25.0	0.040
QQN-Bisection-1	-1.78e0	6.73e-1	-2.74e0	-8.39e-1	1432.2	20.0	0.036
Adam-Robust	-1.65e0	7.13e-1	-2.69e0	-8.20e-1	83.1	10.0	0.002
Adam-WeightDecay	-1.75e0	5.79e-1	-2.69e0	-8.31e-1	178.5	10.0	0.004
GD-AdaptiveMomentum	-1.09e0	5.78e-1	-2.69e0	-4.06e-1	27.8	5.0	0.001
GD-Momentum	-1.11e0	8.01e-1	-2.69e0	-4.00e-5	51.9	5.0	0.002
GD-WeightDecay	-1.24e0	5.21e-1	-2.69e0	-7.45e-1	86.0	5.0	0.003
GD-Nesterov	-1.24e0	6.70e-1	-2.69e0	-6.95e-1	159.9	5.0	0.005
L-BFGS-MoreThuente	-1.39e0	5.83e-1	-2.73e0	-8.39e-1	519.5	5.0	0.010
QQN-GoldenSection	-1.36e0	7.15e-1	-2.69e0	-3.60e-6	1751.2	5.0	0.033
QQN-CubicQuadraticInterpolation	-8.49e-1	4.86e-1	-1.88e0	-4.46e-5	1726.7	0.0	0.055
Trust Region-Conservative	-9.74e-1	4.08e-1	-1.86e0	-1.78e-3	263.6	0.0	0.002
L-BFGS-Limited	-8.44e-1	6.65e-1	-1.86e0	-3.16e-6	2003.6	0.0	0.025
Trust Region-Precise	-9.85e-1	6.29e-1	-1.74e0	-1.94e-6	41.0	0.0	0.000
Trust Region-Adaptive	-7.58e-1	6.00e-1	-1.73e0	-4.40e-4	10.8	0.0	0.000
Trust Region-Standard	-3.29e-1	4.87e-1	-1.53e0	-4.71e-5	5.5	0.0	0.000
L-BFGS-Aggressive	-4.98e-1	3.88e-1	-1.25e0	1.67e-8	3524.2	0.0	0.027
L-BFGS	-2.16e-1	2.92e-1	-8.96e-1	-1.24e-6	90.4	0.0	0.001
Trust Region-Aggressive	-1.81e-1	2.12e-1	-7.69e-1	-2.00e-4	5.0	0.0	0.000