Table 1: Performance Results for StyblinskiTang_10D Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
Adam-Robust	-1.05e2	5.69e0	-1.13e2	-9.23e1	2502.0	0.0	0.062
Adam-AMSGrad	-1.51e2	6.41e0	-1.63e2	-1.38e2	2502.0	0.0	0.061
Adam	-1.49e2	8.21e0	-1.65e2	-1.36e2	2502.0	0.0	0.055
Adam-WeightDecay	-3.73e2	6.63e0	-3.78e2	-3.63e2	1837.7	35.0	0.043
L-BFGS-Aggressive	-1.97e2	5.94e1	-3.07e2	-3.33e1	3848.4	0.0	0.029
Trust Region-Precise	-6.35e1	9.97e-1	-6.56e1	-6.19e1	3002.0	0.0	0.023
Trust Region-Conservative	-1.09e1	7.10e-1	-1.25e1	-9.28e0	3002.0	0.0	0.021
Trust Region-Adaptive	-2.51e2	1.09e0	-2.54e2	-2.49e2	3002.0	0.0	0.020
L-BFGS-Conservative	-3.74e2	8.27e0	-3.82e2	-3.49e2	543.3	30.0	0.015
QQN-StrongWolfe	-3.60e2	1.80e1	-3.86e2	-3.21e2	362.2	15.0	0.012
QQN-Bisection-1	-3.74e2	9.58e0	-3.89e2	-3.49e2	412.5	30.0	0.011
QQN-GoldenSection	-3.76e2	1.20e1	-3.91e2	-3.49e2	452.4	45.0	0.010
L-BFGS-Limited	-3.76e2	7.70e0	-3.86e2	-3.63e2	550.6	35.0	0.009
Trust Region-Standard	-3.68e2	1.96e1	-3.79e2	-3.00e2	1120.5	40.0	0.008
QQN-CubicQuadraticInterpolation	-3.66e2	1.97e1	-3.91e2	-3.21e2	172.1	15.0	0.006
QQN-Bisection-2	-3.72e2	1.22e1	-3.90e2	-3.49e2	234.2	35.0	0.006
GD	-3.71e2	9.86e0	-3.80e2	-3.49e2	137.3	25.0	0.004
GD-Momentum	-3.59e2	3.83e1	-3.82e2	-1.98e2	86.2	15.0	0.003
GD-WeightDecay	-3.75e2	9.86e0	-3.83e2	-3.49e2	74.7	45.0	0.003
L-BFGS-MoreThuente	-3.76e2	1.18e1	-3.91e2	-3.49e2	125.9	35.0	0.002
Trust Region-Aggressive	-3.71e2	1.92e1	-3.81e2	-3.13e2	284.1	50.0	0.002
GD-Nesterov	-3.75e2	7.32e0	-3.83e2	-3.60e2	65.9	30.0	0.002
L-BFGS	-3.76e2	1.21e1	-3.90e2	-3.46e2	132.2	45.0	0.002
GD-AdaptiveMomentum	-3.21e2	6.46e1	-3.82e2	-1.87e2	53.4	20.0	0.002
Adam-Fast	-3.65e2	1.28e1	-3.85e2	-3.50e2	67.5	30.0	0.002