Table 1: Performance Results for Rosenbrock_2D Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
L-BFGS-Conservative	6.53e-3	2.16e-3	1.09e-3	8.39e-3	985.0	100.0	0.016
L-BFGS-MoreThuente	1.91e-2	6.42e-2	1.40e-4	2.99e-1	651.0	95.0	0.011
Adam-Fast	2.13e0	2.74e0	8.12e-3	8.39e0	171.8	60.0	0.003
QQN-CubicQuadraticInterpolation	3.73e-2	3.12e-2	5.16e-3	9.89e-2	1619.8	40.0	0.065
QQN-StrongWolfe	5.67e-2	7.24e-2	4.58e-3	3.11e-1	2004.3	35.0	0.059
QQN-Bisection-2	6.07e-2	6.89e-2	4.36e-3	2.52e-1	304.7	30.0	0.007
GD-AdaptiveMomentum	6.54e-1	1.23e0	3.23e-3	4.36e0	47.7	25.0	0.002
QQN-GoldenSection	1.26e-1	5.76e-2	8.08e-5	1.93e-1	4248.6	10.0	0.080
QQN-Bisection-1	4.65e-1	8.86e-1	6.39e-3	3.18e0	2363.3	5.0	0.053
Adam-WeightDecay	4.11e0	9.66e-1	1.55e-2	4.69e0	231.9	0.0	0.005
L-BFGS-Limited	3.93e0	5.18e0	3.26e-2	1.96e1	2251.6	0.0	0.026
GD-WeightDecay	3.65e0	3.07e0	3.75e-2	1.07e1	58.7	0.0	0.002
GD-Nesterov	1.49e0	1.88e0	5.05e-2	5.63e0	46.1	0.0	0.001
Trust Region-Conservative	2.84e1	2.98e1	1.90e-1	1.23e2	2770.7	0.0	0.017
Adam-AMSGrad	3.83e0	1.33e0	4.66e-1	4.75e0	678.1	0.0	0.015
GD-Momentum	5.61e0	3.44e0	4.79e-1	1.33e1	23.8	0.0	0.001
Adam	1.22e0	3.51e-1	4.86e-1	1.76e0	2502.0	0.0	0.050
GD	1.23e0	1.46e0	7.46e-1	6.37e0	854.0	0.0	0.022
L-BFGS	1.36e2	1.58e2	8.12e-1	5.03e2	121.5	0.0	0.002
Adam-Robust	4.04e0	8.59e-1	1.90e0	4.73e0	419.2	0.0	0.009
Trust Region-Precise	7.26e0	8.07e0	3.76e0	3.52e1	946.2	0.0	0.006
Trust Region-Adaptive	4.12e0	2.07e-1	3.83e0	4.42e0	494.4	0.0	0.003
Trust Region-Standard	4.18e0	1.83e-1	3.95e0	4.51e0	89.6	0.0	0.001
Trust Region-Aggressive	4.66e0	3.99e-1	4.01e0	5.49e0	27.6	0.0	0.000
L-BFGS-Aggressive	3.18e1	2.86e1	4.34e0	1.12e2	3852.0	0.0	0.027