

Table 1: Performance Results for NeuralNetwork\_100samples\_layers\_5\_10\_3 Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
<b>GD-WeightDecay</b>	1.84e-1	3.79e-3	1.80e-1	1.96e-1	1668.0	0.0	2.360
GD	2.03e-1	2.81e-3	1.98e-1	2.08e-1	1668.0	0.0	2.339
Adam-AMSGrad	1.54e-1	9.68e-3	1.40e-1	1.74e-1	2502.0	0.0	2.087
Adam-Robust	1.67e-1	9.86e-3	1.48e-1	1.86e-1	2502.0	0.0	2.086
Adam	1.53e-1	6.87e-3	1.40e-1	1.64e-1	2473.1	10.0	2.047
L-BFGS-MoreThuente	1.51e-1	7.64e-3	1.40e-1	1.64e-1	2755.1	15.0	1.880
QQN-StrongWolfe	1.43e-1	4.72e-3	1.38e-1	1.53e-1	1646.3	45.0	1.542
Adam-WeightDecay	1.41e-1	2.52e-3	1.40e-1	1.51e-1	1794.2	85.0	1.486
L-BFGS-Aggressive	1.50e-1	6.38e-3	1.40e-1	1.62e-1	2776.7	5.0	1.320
L-BFGS-Limited	1.47e-1	1.08e-2	1.40e-1	1.76e-1	2641.3	45.0	1.307
L-BFGS-Conservative	1.48e-1	9.87e-3	1.40e-1	1.70e-1	1970.8	45.0	1.252
QQN-GoldenSection	1.41e-1	3.06e-3	1.38e-1	1.51e-1	2749.2	75.0	0.957
L-BFGS	2.39e-1	9.10e-2	1.41e-1	4.48e-1	1556.7	0.0	0.904
QQN-CubicQuadraticInterpolation	1.41e-1	4.67e-3	1.37e-1	1.58e-1	764.9	80.0	0.831
QQN-Bisection-1	1.40e-1	9.76e-4	1.38e-1	1.43e-1	727.2	95.0	0.643
QQN-Bisection-2	1.40e-1	1.16e-3	1.39e-1	1.45e-1	864.2	90.0	0.629
Adam-Fast	1.43e-1	5.31e-3	1.39e-1	1.57e-1	149.3	60.0	0.125
Trust Region-Conservative	2.20e-1	1.45e-3	2.18e-1	2.23e-1	159.9	0.0	0.100
Trust Region-Adaptive	8.19e-1	2.38e0	1.95e-1	1.12e1	46.5	0.0	0.029
GD-Nesterov	2.27e-1	3.51e-3	2.20e-1	2.35e-1	21.6	0.0	0.029
GD-Momentum	2.34e-1	5.59e-3	2.25e-1	2.46e-1	21.2	0.0	0.028
Trust Region-Precise	2.23e-1	2.48e-2	1.97e-1	3.24e-1	42.9	0.0	0.027
Trust Region-Standard	4.01e-1	4.17e-1	2.08e-1	1.77e0	35.5	0.0	0.023
GD-AdaptiveMomentum	2.56e-1	1.34e-2	2.32e-1	2.89e-1	15.9	0.0	0.021
Trust Region-Aggressive	7.98e-1	3.20e-1	2.20e-1	1.24e0	23.0	0.0	0.015