

Table 1: Performance Results for SVM_200samples_10features_C1 Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
QQN-Bisection-1	6.86e-1	5.90e-6	6.86e-1	6.86e-1	1454.6	0.0	1.051
QQN-CubicQuadraticInterpolation	6.86e-1	5.68e-6	6.86e-1	6.86e-1	289.4	0.0	0.221
GD-WeightDecay	6.86e-1	6.77e-7	6.86e-1	6.86e-1	177.0	0.0	0.172
L-BFGS-Limited	6.86e-1	1.04e-4	6.86e-1	6.87e-1	770.6	0.0	0.264
QQN-GoldenSection	6.86e-1	6.68e-6	6.86e-1	6.86e-1	925.2	0.0	0.322
QQN-StrongWolfe	6.86e-1	3.82e-6	6.86e-1	6.86e-1	1065.5	0.0	0.586
QQN-Bisection-2	6.86e-1	1.16e-5	6.86e-1	6.86e-1	911.8	0.0	0.461
GD	6.86e-1	1.43e-6	6.86e-1	6.86e-1	450.0	0.0	0.442
Adam-AMSGrad	6.86e-1	1.05e-5	6.86e-1	6.86e-1	1996.0	0.0	1.280
Adam-Robust	6.86e-1	1.01e-5	6.86e-1	6.86e-1	547.7	0.0	0.357
L-BFGS-Conservative	6.86e-1	5.85e-6	6.86e-1	6.86e-1	624.9	0.0	0.274
Adam-WeightDecay	6.86e-1	7.69e-6	6.86e-1	6.86e-1	668.9	0.0	0.428
L-BFGS	7.68e-1	3.55e-1	6.86e-1	2.32e0	321.6	0.0	0.146
L-BFGS-MoreThuente	5.16e3	2.25e4	6.86e-1	1.03e5	555.0	0.0	0.325
Adam	6.86e-1	9.76e-6	6.86e-1	6.86e-1	1755.8	0.0	1.112
L-BFGS-Aggressive	6.86e-1	6.90e-6	6.86e-1	6.86e-1	124.0	0.0	0.050
Adam-Fast	7.22e-1	2.34e-2	6.87e-1	7.51e-1	42.1	0.0	0.026
Trust Region-Conservative	2.49e0	1.56e0	6.88e-1	4.05e0	130.4	0.0	0.068
Trust Region-Standard	8.76e-1	1.40e-1	6.90e-1	1.09e0	20.8	0.0	0.011
GD-Nesterov	7.03e-1	4.03e-3	6.94e-1	7.12e-1	25.7	0.0	0.024
Trust Region-Adaptive	6.77e0	1.17e1	6.97e-1	3.46e1	24.4	0.0	0.013
GD-Momentum	7.08e-1	5.01e-3	6.99e-1	7.17e-1	25.8	0.0	0.024
Trust Region-Precise	9.09e-1	1.95e-1	7.00e-1	1.21e0	36.1	0.0	0.019
Trust Region-Aggressive	1.84e0	4.05e-1	7.56e-1	2.23e0	11.8	0.0	0.006
GD-AdaptiveMomentum	7.83e-1	1.76e-2	7.62e-1	8.35e-1	18.0	0.0	0.016