

Table 1: Performance Results for SVM\_100samples\_5features\_C1 Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
<b>L-BFGS-MoreThuente</b>	6.43e-1	1.35e-5	6.43e-1	6.43e-1	41.3	100.0	0.013
L-BFGS	6.43e-1	1.38e-12	6.43e-1	6.43e-1	42.0	100.0	0.012
L-BFGS-Aggressive	6.43e-1	1.41e-10	6.43e-1	6.43e-1	46.0	100.0	0.012
QQN-StrongWolfe	6.43e-1	1.43e-5	6.43e-1	6.43e-1	57.5	100.0	0.023
QQN-CubicQuadraticInterpolation	6.43e-1	7.64e-7	6.43e-1	6.43e-1	61.6	100.0	0.028
QQN-Bisection-2	6.43e-1	1.80e-5	6.43e-1	6.43e-1	68.8	100.0	0.030
QQN-Bisection-1	6.43e-1	1.39e-5	6.43e-1	6.43e-1	83.4	100.0	0.039
GD-WeightDecay	6.43e-1	2.96e-6	6.43e-1	6.43e-1	97.2	100.0	0.055
L-BFGS-Conservative	6.43e-1	1.59e-5	6.43e-1	6.43e-1	133.7	100.0	0.046
GD	6.43e-1	1.32e-6	6.43e-1	6.43e-1	274.4	100.0	0.156
Adam-WeightDecay	6.43e-1	1.36e-6	6.43e-1	6.43e-1	628.6	100.0	0.231
Adam	6.43e-1	5.18e-7	6.43e-1	6.43e-1	1826.7	100.0	0.672
QQN-GoldenSection	6.43e-1	1.87e-5	6.43e-1	6.43e-1	228.9	90.0	0.046
L-BFGS-Limited	6.43e-1	1.94e-5	6.43e-1	6.43e-1	444.7	90.0	0.098
Adam-AMSGrad	6.43e-1	1.44e-5	6.43e-1	6.43e-1	1984.2	90.0	0.726
Adam-Robust	6.43e-1	1.65e-4	6.43e-1	6.44e-1	1414.2	50.0	0.517
Adam-Fast	6.84e-1	2.44e-2	6.44e-1	7.29e-1	32.8	0.0	0.012
Trust Region-Conservative	2.82e0	1.25e0	6.45e-1	3.96e0	134.5	0.0	0.039
GD-Nesterov	6.64e-1	5.99e-3	6.50e-1	6.76e-1	25.1	0.0	0.014
GD-Momentum	6.73e-1	9.01e-3	6.53e-1	6.91e-1	24.9	0.0	0.014
Trust Region-Aggressive	1.00e3	4.36e3	6.57e-1	2.00e4	16.3	0.0	0.005
Trust Region-Precise	9.38e-1	2.76e-1	6.73e-1	1.58e0	36.2	0.0	0.011
Trust Region-Adaptive	4.68e0	6.93e0	7.07e-1	3.43e1	19.0	0.0	0.006
GD-AdaptiveMomentum	7.53e-1	2.76e-2	7.12e-1	8.06e-1	17.6	0.0	0.010
Trust Region-Standard	3.47e2	9.80e2	7.26e-1	3.28e3	15.4	0.0	0.005