Table 1: Performance Results for StyblinskiTang_5D Problem

Adam-Robust -5.32e1 3.79e0 -6.12e1 -4.49e1 2502.0 0.0 0.059 Adam- -7.50e1 4.47e0 -8.10e1 -6.56e1 2502.0 0.0 0.059 AMSGrad -7.38e1 4.48e0 -8.30e1 -6.64e1 2502.0 0.0 0.052 Adam -7.38e1 4.48e0 -8.30e1 -6.64e1 2502.0 0.0 0.052 Adam- -1.90e2 6.36e0 -1.95e2 -1.82e2 1865.5 65.0 0.041 Weight Decay L-BFGS- -1.04e2 4.24e1 -1.83e2 -1.25e1 3847.9 0.0 0.028 Aggressive Trust Region- -6.28e1 7.02e-1 -6.40e1 -6.17e1 3002.0 0.0 0.020 Precise Trust Region- -1.05e1 7.12e-1 -1.22e1 -9.39e0 3002.0 0.0 0.019 Conservative Trust Region- -1.88e2 1.11e1 -1.95e2 -1.59e2 567.8 65.0 </th
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Trust Region1.88e2
Adaptive L-BFGS- -1.89e2 1.03e1 -1.95e2 -1.59e2 567.8 65.0 0.012
L-BFGS1.89e2 1.03e1 -1.95e2 -1.59e2 567.8 65.0 0.012 Conservative L-BFGS1.89e2 6.97e0 -1.96e2 -1.82e2 839.9 50.0 0.011 Limited QQN1.85e2 1.08e1 -1.96e2 -1.53e2 261.1 40.0 0.009 StrongWolfe QQN-Bisection1.89e2 8.22e0 -1.96e2 -1.68e2 413.4 60.0 0.008 1 QQN1.90e2 9.30e0 -1.96e2 -1.68e2 330.5 70.0 0.006 GoldenSection QQN-Bisection1.89e2 9.39e0 -1.96e2 -1.68e2 177.8 60.0 0.005 QQN-Bisection1.89e2 9.39e0 -1.96e2 -1.68e2 177.8 60.0 0.005 QQN-Bisection1.82e2 1.48e1 -1.96e2 -1.53e2 129.7 45.0 0.005 CubicQuadraticInterpolation L-BFGS1.89e2 6.99e0 -1.96e2 -1.82e2 209.2 50.0 0.004
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QQN-Bisection1.89e2 9.39e0 -1.96e2 -1.68e2 177.8 60.0 0.005 2 QQN1.82e2 1.48e1 -1.96e2 -1.53e2 129.7 45.0 0.005 CubicQuadraticInterpolation L-BFGS1.89e2 6.99e0 -1.96e2 -1.82e2 209.2 50.0 0.004
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L-BFGS1.89e2 6.99e0 -1.96e2 -1.82e2 209.2 50.0 0.004
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Trust Region- $-1.88e2$ $8.33e0$ $-1.96e2$ $-1.67e2$ 568.8 55.0 0.004
Standard
GD $-1.86e2$ $1.17e1$ $-1.95e2$ $-1.53e2$ 95.7 50.0 0.003
L-BFGS $-1.86e2$ $7.77e0$ $-1.96e2$ $-1.74e2$ 153.3 30.0 0.002
GD-Momentum -1.64e2 3.72e1 -1.95e2 -7.54e1 57.8 15.0 0.002
GD- $-1.88e2$ $1.04e1$ $-1.96e2$ $-1.53e2$ 53.1 60.0 0.002
WeightDecay
GD-Nesterov -1.82e2 1.85e1 -1.96e2 -1.16e2 44.9 30.0 0.001
Adam-Fast -1.86e2 1.14e1 -1.96e2 -1.62e2 65.0 55.0 0.001
GD- $-1.35e2$ $3.62e1$ $-1.95e2$ $-7.45e1$ 34.4 10.0 0.001
AdaptiveMomentum
Trust Region- $-1.90e2$ $1.11e1$ $-1.96e2$ $-1.53e2$ 144.5 45.0 0.001
Aggressive