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)
QQN-	1.26e-1	5.76e-2	8.08e-5	1.93e-1	4248.6	10.0	0.083
GoldenSection							
QQN-	3.73e-2	3.12e-2	5.16e-3	9.89e-2	1619.8	40.0	0.065
CubicQuadraticInterpolation							
QQN-	5.67e-2	7.24e-2	4.58e-3	3.11e-1	2004.3	35.0	0.058
StrongWolfe							
QQN-Bisection-	4.65e-1	8.86e-1	6.39e-3	3.18e0	2363.3	5.0	0.052
1							
Adam	1.22e0	3.51e-1	4.86e-1	1.76e0	2502.0	0.0	0.049
L-BFGS-	3.18e1	2.86e1	4.34e0	1.12e2	3852.0	0.0	0.027
Aggressive							
L-BFGS-	3.93e0	5.18e0	3.26e-2	1.96e1	2251.6	0.0	0.025
Limited							
GD	1.23e0	1.46e0	7.46e-1	6.37e0	854.0	0.0	0.021
Trust Region-	2.84e1	2.98e1	1.90e-1	1.23e2	2770.7	0.0	0.017
Conservative	a x o o	2.10. 2	1 00 0	0.00	007.0	100.0	0.010
L-BFGS-	6.53e-3	2.16e-3	1.09e-3	8.39e-3	985.0	100.0	0.016
Conservative	0.00.0	1.00.0	4.00 1	4 77 0	0 7 0.1	0.0	0.015
Adam-	3.83e0	1.33e0	4.66e-1	4.75e0	678.1	0.0	0.015
AMSGrad	1.010	6 40- 0	1.40e-4	9.00- 1	CT1 0	05.0	0.011
L-BFGS- MoreThuente	1.91e-2	6.42e-2	1.40e-4	2.99e-1	651.0	95.0	0.011
Adam-Robust	4.04e0	8.59e-1	1.90e0	4.73e0	419.2	0.0	0.009
QQN-Bisection-	6.07e-2	6.89e-1	4.36e-3	4.73e0 2.52e-1	304.7	30.0	0.009 0.007
2	0.076-2	0.896-2	4.500-5	2.026-1	304.7	30.0	0.007
Trust Region-	7.26e0	8.07e0	3.76e0	3.52e1	946.2	0.0	0.006
Precise 10051011	1.2000	0.0100	0.1000	0.0201	010.2	0.0	0.000
Adam-	4.11e0	9.66e-1	1.55e-2	4.69e0	231.9	0.0	0.005
WeightDecay	1,1100	0.000 1	1.000 -	1.0000	201.0	0.0	0.000
	2.13e0	2.74e0	8.12e-3	8.39e0	171.8	60.0	0.003
GD-	$3.65\mathrm{e}0$	3.07e0	3.75e-2	1.07e1	58.7	0.0	0.002
WeightDecay							
L-BFGS	1.36e2	1.58e2	8.12e-1	5.03e2	121.5	0.0	0.002
GD-	6.54 e-1	1.23e0	3.23e-3	4.36e0	47.7	25.0	0.002
AdaptiveMomentu	ım						
GD-Nesterov	1.49e0	1.88e0	5.05e-2	5.63e0	46.1	0.0	0.001
GD-Momentum	5.61e0	3.44e0	4.79e-1	1.33e1	23.8	0.0	0.001
Trust Region-	4.18e0	1.83e-1	3.95e0	4.51e0	89.6	0.0	0.001
Standard							
Trust Region-	4.66e0	3.99e-1	4.01e0	5.49e0	27.6	0.0	0.000
Aggressive							
WeightDecay L-BFGS GD- AdaptiveMomentu GD-Nesterov GD-Momentum Trust Region- Standard	1.36e2 6.54e-1 um 1.49e0 5.61e0 4.18e0	1.58e2 1.23e0 1.88e0 3.44e0 1.83e-1	8.12e-1 3.23e-3 5.05e-2 4.79e-1 3.95e0	5.03e2 4.36e0 5.63e0 1.33e1 4.51e0	121.5 47.7 46.1 23.8 89.6	0.0 25.0 0.0 0.0 0.0	0.002 0.002 0.001 0.001 0.001