

Project: Stochastic Gradient Descent

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1 Introduction

2 Experiments

3 Analysis of ρ -Lipschitz properties

4 Results

Scenario	a	n	N	# trials	Logistic loss			Excess Risk	Logistic loss	
					Mean	Std Dev	Min		Mean	Std Dev
1	0.05	50	400	30	0.416	0.008	0.408	0.008	0.000	0.000
1	0.05	100	400	30	0.386	0.005	0.382	0.004	0.000	0.000
1	0.05	500	400	30	0.343	0.002	0.341	0.002	0.000	0.000
1	0.05	1000	400	30	0.334	0.001	0.332	0.002	0.000	0.000
1	0.3	50	400	30	0.453	0.012	0.430	0.023	0.074	0.025
1	0.3	100	400	30	0.416	0.007	0.398	0.019	0.064	0.013
1	0.3	500	400	30	0.369	0.002	0.365	0.003	0.043	0.002
1	0.3	1000	400	30	0.367	0.001	0.366	0.002	0.060	0.002
2	0.05	50	400	30	0.123	0.004	0.116	0.007	0.000	0.000
2	0.05	100	400	30	0.120	0.002	0.116	0.004	0.000	0.000
2	0.05	500	400	30	0.122	0.001	0.120	0.002	0.000	0.000
2	0.05	1000	400	30	0.123	0.001	0.122	0.001	0.000	0.000
2	0.3	50	400	30	0.420	0.031	0.376	0.044	0.075	0.018
2	0.3	100	400	30	0.383	0.021	0.349	0.034	0.061	0.013
2	0.3	500	400	30	0.371	0.006	0.361	0.010	0.065	0.003
2	0.3	1000	400	30	0.368	0.005	0.362	0.006	0.053	0.004

5 Conclusion

A Appendix: Symbol Listing

B Appendix: Library Routines

C Appendix: Code