

Benchmark report for Logreg algorithms

[Lasso Linear Regression Bench](#)

Main purpose of this report is to analyze which algorithms can produce correct results for different datasets. Time comparisons are not to be taken too seriously as many algorithms are implemented in Matlab.

Of our algorithms, the latest result is taken as the official. For multicore versions, for each different number of cpus (1,2,4,8), a result is shown.

Why some results are missing? If optimization crashes or did not finish in 90 minutes.

Generated: 02:33:23 01/31/11 EST

Algorithms

Name		URL	Authors	Cost Function
l1logreg	l1_logreg: A large-scale solver for l1-regularized logistic regression problems	http://www.stanford.edu/~boyd/l1_logreg/index.html	Kwangmoo Koh, Seung-Jean Kim, and Stephen Boyd	A
LibLinear	LIBLINEAR: A Library for Large Linear Classification (JMLR 9(2008))	http://www.csie.ntu.edu.tw/~cjlin/liblinear	R.-E. Fan, K.-W. Chang, C.-J. Hsieh, X.-R. Wang, and C.-J. Lin	A
SCD_logreg	Stochastic Coordinate Descent Algorithm	http://www.cs.utexas.edu/~ambuj/code/scd/	Shay Shalev Shwartz and Ambuj Tewari	A
sgd_constrate	SGD with constant learning rate	-		
sgd_parallel	SGD with averaging	-	Zinkevich, Smola (anom.)	
sgd_seq_best	SGD: sequential, best learner chosen	-	(anonymized) (bases on Zinkevich, Smola 2010)	
shotgun_cdn	Shotgun LogReg with One-Dimensional Newton Method	-	(anonymized); Yuan, Chang, Hsieh, Lin	
SMIDAS_logreg	Stochastic Mirror Descent Algorithm	http://www.cs.utexas.edu/~ambuj/code/SMIDAS/	Shay Shalev Shwartz and Ambuj Tewari	A

Datasets

Name	M	N	Sparsity	Cite
a9a.mat	123	32561	0.112757	UCI / Adult
arcene.mat	10000	100	0.548941	http://archive.ics.uci.edu/ml/datasets/Arcene
data_small.mat	2	5000	1.0	Class 10-725 assignment material
ijcnn1.mat	22	49990	0.590908	Danil Prokhorov. IJCNN 2001 neural network competition. Slide presentation in IJCNN 01, Ford Research Laboratory, 2001. http://www.geocities.com/ijcnn/nnc_ijcnn01.pdf
iris_data.mat	4	90	1.0	Class 10-725 assignment material

news20.binary.mat	1355191	19996	0.00033574	http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/
phonecalls.mat	191186	209432	2.2e-05	?
rcv1.mat	44504	20242	0.001664	David D. Lewis, Yiming Yang, Tony G. Rose, and Fan Li. RCV1: A new benchmark collection for text categorization research. Journal of Machine Learning Research, 5:361-397, 2004
rcv1_test.mat	42735	677399	0.001712	http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/
zeta.mat	2000	500000	1.0	http://largescale.ml.tu-berlin.de/about/

Summary

Datasets and Results

a9a.mat

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<http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/UCI/Adult>

n (# of data points)	m (# of features)	% of non-zeros	Comments
32561	123	11.2757	http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	$\ x\ _0$	$\ x\ _1$	Train error	Test error	Updated	Notes
shotgun_cdn trace	1	0.1	5.295	-9644.94	None	90.0000	2025.78	0.150423	0.155358	2011-01-29 17:43:30	Thr: 0.00002; shoots: 9878; shoots/sec: 1865.53
shotgun_cdn trace	2	0.1	5.587	-9640.39	None	88.0000	1982.01	0.150355	0.155665	2011-01-29 17:43:30	Thr: 0.00002; shoots: 9755; shoots/sec: 1746.02
shotgun_cdn trace	4	0.1	16.417	-10725.4	None	104.0000	2012.29	0.151101		2011-01-29 17:43:30	Thr: 0.00100; shoots: 12300; shoots/sec: 749.22
shotgun_cdn trace	4	0.1	3.846	-9640.9	-1484.33799123	88.0000	1977.28	0.150457	0.155051	2011-01-30 11:00:09	Thr: 0.00002; shoots: 9776; shoots/sec: 2541.86
shotgun_cdn trace	6	0.1	3.986	-9641.57	-1486.99101859	92.0000	1988.51	0.150526	0.154744	2011-01-30 13:01:43	Thr: 0.00002; shoots: 9987; shoots/sec: 2505.52
shotgun_cdn trace	8	0.1	4.306	-9642.26	None	88.0000	1927.37	0.15056	0.154744	2011-01-29 17:43:30	Thr: 0.00002; shoots: 9545; shoots/sec: 2216.67
l1logreg trace	basic	0.1	6.47732	-10692.9	None	90.0000	1746.68	0.400541		2011-01-25 11:41:53	NOTE: has intercept!
SMIDAS_logreg trace	basic	0.1	111.415	-20835.2	None	68.0000	41.4993	0.239114		2011-01-28 09:32:02	
sgd_constrate trace	1	1.0	110.324	-11027.6	-	123.0000	1277.37	0.154313	0.161191	2011-	Thr:

					3672.94006348					01-29 21:30:04	0.21544; shoots: 20000000; shoots/sec: 181284.22
shotgun_cdn trace	1	1.0	3.584	-11027.3	None	40.0000	1257.51	0.155303	0.162112	2011-01-29 17:43:30	Thr: 0.00002; shoots: 4509; shoots/sec: 1258.09
shotgun_cdn trace	2	1.0	3.925	-11027.1	None	41.0000	1258.69	0.155303	0.162112	2011-01-29 17:43:30	Thr: 0.00002; shoots: 4609; shoots/sec: 1174.27
shotgun_cdn trace	4	1.0	2.582	-11025.3	- 3649.82006836	43.0000	1265.95	0.154996	0.162419	2011-01-30 11:00:09	Thr: 0.00002; shoots: 4802; shoots/sec: 1859.80
shotgun_cdn trace	6	1.0	2.988	-11026.2	- 3646.49987793	42.0000	1264.09	0.154859	0.162419	2011-01-30 13:01:43	Thr: 0.00002; shoots: 4756; shoots/sec: 1591.70
shotgun_cdn trace	8	1.0	2.753	-11026.5	None	41.0000	1263.54	0.154928	0.162112	2011-01-29 17:43:30	Thr: 0.00002; shoots: 4696; shoots/sec: 1705.78
l1logreg trace	basic	1.0	3.17177	-11884.3	None	38.0000	1079.25	0.358251		2011-01-25 11:42:01	NOTE: has intercept!
SMIDAS_logreg trace	basic	1.0	110.062	-20898.2	None	68.0000	41.0149	0.239114		2011-01-28 09:33:56	
sgd_constrate trace	1	10.0	112.826	-16525.5	- 7756.73999023	123.0000	311.359	0.21608	0.232115	2011-01-29 21:30:04	Thr: 0.21544; shoots: 20000000; shoots/sec: 177264.11
shotgun_cdn trace	1	10.0	0.762	-16524.0	None	10.0000	312.614	0.215158	0.232115	2011-01-29 17:43:30	Thr: 0.00002; shoots: 1010; shoots/sec: 1325.46
shotgun_cdn trace	2	10.0	0.694	-16524.0	None	9.0000	312.612	0.215158	0.232115	2011-01-29 17:43:30	Thr: 0.00002; shoots: 779; shoots/sec: 1122.48
shotgun_cdn trace	4	10.0	1.373	-16524.0	- 7780.44970703	10.0000	312.615	0.215158	0.232115	2011-01-30 11:00:09	Thr: 0.00002; shoots: 1481; shoots/sec: 1078.66
shotgun_cdn trace	6	10.0	4.085	-16524.1	- 7790.72979736	9.0000	313.158	0.215158	0.232115	2011-01-30 13:01:43	Thr: 0.00002; shoots: 1448; shoots/sec: 354.47
shotgun_cdn trace	8	10.0	5.829	-16613.4	None	8.0000	251.071	0.215704	0.231194	2011-	Thr:

										01-29 17:43:30	0.00002; shoots: 1238; shoots/sec: 212.39
l1logreg <u>trace</u>	basic	10.0	2.61907	-16326.7	None	6.0000	253.879	0.388962		2011-01-25 11:42:07	NOTE: has intercept!
SMIDAS_logreg <u>trace</u>	basic	10.0	110.081	-21490.8	None	67.0000	36.1739	0.239114		2011-01-28 09:35:50	
shotgun_cdn <u>trace</u>	1	100.0	0.011	-20312.0	None	0.0000	0.0	0.760886	0.743936	2011-01-29 17:43:30	Thr: 0.00002; shoots: 123; shoots/sec: 11181.82
shotgun_cdn <u>trace</u>	2	100.0	0.009	-20312.0	None	0.0000	0.0	0.760886	0.743936	2011-01-29 17:43:30	Thr: 0.00002; shoots: 123; shoots/sec: 13666.67
shotgun_cdn <u>trace</u>	4	100.0	0.008	-20312.0	- 2257.58007812	0.0000	0.0	0.760886	0.743936	2011-01-30 11:00:09	Thr: 0.00002; shoots: 123; shoots/sec: 15375.00
shotgun_cdn <u>trace</u>	6	100.0	0.009	-20312.0	- 2257.58007812	0.0000	0.0	0.760886	0.743936	2011-01-30 13:01:43	Thr: 0.00002; shoots: 123; shoots/sec: 13666.67
shotgun_cdn <u>trace</u>	8	100.0	0.014	-20312.0	None	0.0000	0.0	0.760886	0.743936	2011-01-29 17:43:30	Thr: 0.00002; shoots: 123; shoots/sec: 8785.71
l1logreg <u>trace</u>	basic	100.0	0.529891	-17974.0	None	0.0000	0.0	0.24081		2011-01-25 11:42:12	NOTE: has intercept!
SMIDAS_logreg <u>trace</u>	basic	100.0	99.2154	-23699.6	None	64.0000	14.0685	0.227921		2011-01-28 09:37:33	
shotgun_cdn <u>trace</u>	1	1000.0	0.011	-20312.0	None	0.0000	0.0	0.760886	0.743936	2011-01-29 17:43:30	Thr: 0.00002; shoots: 123; shoots/sec: 11181.82
shotgun_cdn <u>trace</u>	2	1000.0	0.01	-20312.0	None	0.0000	0.0	0.760886	0.743936	2011-01-29 17:43:30	Thr: 0.00002; shoots: 123; shoots/sec: 12300.00
shotgun_cdn <u>trace</u>	4	1000.0	0.008	-20312.0	- 2257.58007812	0.0000	0.0	0.760886	0.743936	2011-01-30 11:00:09	Thr: 0.00002; shoots: 123; shoots/sec: 15375.00
shotgun_cdn <u>trace</u>	6	1000.0	0.01	-20312.0	- 2257.58007812	0.0000	0.0	0.760886	0.743936	2011-01-30 13:01:43	Thr: 0.00002; shoots: 123; shoots/sec: 12300.00

shotgun_cdn_trace	8	1000.0	0.014	-20312.0	None	0.0000	0.0	0.760886	0.743936	2011-01-29 17:43:30	Thr: 0.00002; shoots: 123; shoots/sec: 8785.71
l1logreg_trace	basic	1000.0	0.530504	-17974.0	None	0.0000	0.0	0.24081		2011-01-25 11:42:16	NOTE: has intercept!
SMIDAS_logreg_trace	basic	1000.0	49.1115	-24202.7	None	28.0000	1.47381	0.94656		2011-01-28 09:38:25	

arcene.mat

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Dataset for NIPS 2003 competition. Cancer prediction problem. <http://archive.ics.uci.edu/ml/datasets/Arcene>

n (# of data points)	m (# of features)	% of non-zeros	Comments
100	10000	54.8941	Dataset for NIPS 2003 competition. Cancer prediction problem.

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	x _0	x _1	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	0.01	4.607	-2.88601	None	114.0000	241.003	0.0		2011-01-29 17:43:32	Thr: 0.01000; shoots: 992000; shoots/sec: 215324.51
shotgun_cdn_trace	2	0.01	1.832	-2.87503	None	117.0000	239.801	0.0		2011-01-29 17:43:33	Thr: 0.01000; shoots: 992000; shoots/sec: 541484.72
shotgun_cdn_trace	4	0.01	1.016	-2.87461	None	116.0000	240.039	0.0		2011-01-29 17:43:33	Thr: 0.01000; shoots: 992000; shoots/sec: 976377.95
shotgun_cdn_trace	8	0.01	0.702	-2.87509	None	121.0000	239.981	0.0		2011-01-29 17:43:33	Thr: 0.01000; shoots: 992000; shoots/sec: 1413105.41
shotgun_cdn_trace	1	0.1	3.303	-17.8954	None	73.0000	132.076	0.0		2011-01-29 17:43:32	Thr: 0.00100; shoots: 992000; shoots/sec: 300333.03
shotgun_cdn_trace	2	0.1	1.795	-17.8957	None	73.0000	132.059	0.0		2011-01-29 17:43:33	Thr: 0.00100; shoots: 992000; shoots/sec: 552646.24
shotgun_cdn_trace	4	0.1	1.263	-17.8977	None	74.0000	132.09	0.0		2011-01-29 17:43:33	Thr: 0.00100; shoots: 992000; shoots/sec: 785431.51
shotgun_cdn_trace	8	0.1	1.238	-17.8963	None	74.0000	132.078	0.0		2011-01-29 17:43:33	Thr: 0.00100; shoots:

												992000; shoots/sec: 801292.41
shotgun_cdn_trace	1	0.5	0.052	-46.374	None	53.0000	46.6074	0.0	0.2	2011-01-29 17:43:33	Thr: 0.00004; shoots: 33848; shoots/sec: 650923.08	
shotgun_cdn_trace	2	0.5	0.074	-46.3041	None	32.0000	44.3741	0.0	0.3	2011-01-29 17:43:33	Thr: 0.00004; shoots: 23891; shoots/sec: 322851.35	
shotgun_cdn_trace	4	0.5	1.19	-50.4488	None	44.0000	50.0776	0.0		2011-01-29 17:43:33	Thr: 0.00100; shoots: 992000; shoots/sec: 833613.45	
shotgun_cdn_trace	8	0.5	0.059	-46.4331	None	34.0000	43.5863	0.011111	0.2	2011-01-29 17:43:33	Thr: 0.00004; shoots: 24088; shoots/sec: 408271.19	
l1logreg_trace	basic	0.5	4.33046	-49.7748	None	38.0000	49.2242	0.0		2011-01-25 11:43:01	NOTE: has intercept!	
SMIDAS_logreg_trace	basic	0.5	3228.32	-56.9284	None	1857.0000	20.6438	0.09		2011-01-21 17:32:24		
SMIDAS_logreg	basic	0.5	error="MATLAB:badsubscript"							2011-01-28 15:11:38	errmsg="Attempted to access out2(1); index out of bounds becau	
sgd_constrate_trace	1	1.0	7094.87	-58.5241	- 27.6534996033	9915.0000	10.1383	0.233333	0.4	2011-01-29 17:43:34	Thr: 0.00010; shoots: 50000000; shoots/sec: 7047.35	
sgd_seq_best_trace	1	1.0	7100.75	-58.5161	- 27.5050001144	9915.0000	10.0657	0.233333	0.4	2011-01-29 23:30:07	Thr: 0.21544; shoots: 50000000; shoots/sec: 7041.51	
shotgun_cdn_trace	1	1.0	0.041	-58.4455	None	8.0000	10.1217	0.222222	0.4	2011-01-29 17:43:32	Thr: 0.00004; shoots: 41017; shoots/sec: 1000414.63	
shotgun_cdn_trace	2	1.0	0.036	-58.5085	None	8.0000	9.87355	0.244444	0.4	2011-01-29 17:43:33	Thr: 0.00004; shoots: 21246; shoots/sec: 590166.67	
shotgun_cdn_trace	4	1.0	0.04	-58.4437	- 27.6464004517	9.0000	10.1341	0.222222	0.4	2011-01-30 11:02:11	Thr: 0.00004; shoots: 41045; shoots/sec: 1026125.00	
shotgun_cdn_trace	6	1.0	0.044	-58.4433	- 27.6145992279	9.0000	10.1194	0.222222	0.4	2011-01-30 13:01:43	Thr: 0.00004; shoots: 41012; shoots/sec: 932090.91	
shotgun_cdn_trace	8	1.0	0.045	-58.5411	None	12.0000	10.3825	0.222222	0.4	2011-01-29 17:43:33	Thr:	

												0.00004; shoots: 40945; shoots/sec: 909888.89
l1logreg trace	basic	1.0	3.32804	-64.4497	None	9.0000	14.7643	0.07			2011-01-25 11:43:08	NOTE: has intercept!
SMIDAS_logreg trace	basic	1.0	3301.14	-68.4797	None	1323.0000	18.5539	0.06			2011-01-21 18:27:28	
SMIDAS_logreg	basic	1.0	timeout							2011-01-29 03:11:41	43200 secs	
sgd_constrate trace	1	10.0	7111.97	-62.9389	- 8.04289987683	9915.0000	0.055564	0.488889	0.6		2011-01-29 17:43:34	Thr: 0.00010; shoots: 50000000; shoots/sec: 7030.40
sgd_seq_best trace	1	10.0	7119.47	-62.3833	- 6.93163002594	9915.0000	8e-06	0.6	0.4		2011-01-29 17:43:34	Thr: 0.00010; shoots: 50000000; shoots/sec: 7022.99
shotgun_cdn trace	1	10.0	0.013	-62.3832	None	0.0000	0.0	0.577778	0.4		2011-01-29 17:43:32	Thr: 0.00004; shoots: 9920; shoots/sec: 763076.92
shotgun_cdn trace	2	10.0	0.007	-62.3832	None	0.0000	0.0	0.577778	0.4		2011-01-29 17:43:33	Thr: 0.00004; shoots: 9920; shoots/sec: 1417142.86
shotgun_cdn trace	4	10.0	0.003	-62.3832	-6.9314699173	0.0000	0.0	0.577778	0.4		2011-01-30 11:02:11	Thr: 0.00004; shoots: 9920; shoots/sec: 3306666.67
shotgun_cdn trace	6	10.0	0.003	-62.3832	-6.9314699173	0.0000	0.0	0.577778	0.4		2011-01-30 13:01:43	Thr: 0.00004; shoots: 9920; shoots/sec: 3306666.67
shotgun_cdn trace	8	10.0	0.003	-62.3832	None	0.0000	0.0	0.577778	0.4		2011-01-29 17:43:33	Thr: 0.00004; shoots: 9920; shoots/sec: 3306666.67
l1logreg trace	basic	10.0	0.548769	-68.593	None	0.0000	0.0	0.44			2011-01-25 11:43:13	NOTE: has intercept!
SMIDAS_logreg trace	basic	10.0	16885.2	-780.135	None	184.0000	66.6439	0.055556			2011-01-29 07:53:17	
shotgun_cdn trace	1	100.0	0.032	-69.3147	None	0.0000	0.0	1.0			2011-01-29 17:43:32	Thr: 0.00100; shoots: 9920; shoots/sec: 310000.00
shotgun_cdn trace	2	100.0	0.019	-69.3147	None	0.0000	0.0	1.0			2011-01-29 17:43:33	Thr: 0.00100; shoots: 9920; shoots/sec: 522105.26
shotgun_cdn trace	4	100.0	0.012	-69.3147	None	0.0000	0.0	1.0			2011-01-29 17:43:33	Thr: 0.00100;

												shoots: 9920; shoots/sec: 826666.67
shotgun_cdn_trace	8	100.0	0.011	-69.3147	None	0.0000	0.0	1.0			2011-01-29 17:43:33	Thr: 0.00100; shoots: 9920; shoots/sec: 901818.18

data_small.mat

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Class 10-725 assignment material

n (# of data points)	m (# of features)	% of non-zeros	Comments
5000	2	100.0	

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	x _0	x _1	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	0.1	0.019	-2496.34	None	2.0000	108.441	0.28	0.27	2011-01-29 17:43:35	Thr: 0.00005; shoots: 24; shoots/sec: 1263.16
shotgun_cdn_trace	2	0.1	0.019	-2496.34	None	2.0000	108.441	0.28	0.27	2011-01-29 17:43:35	Thr: 0.00005; shoots: 26; shoots/sec: 1368.42
shotgun_cdn_trace	4	0.1	0.02	-2772.23	None	2.0000	107.908	0.2788		2011-01-29 17:43:35	Thr: 0.00100; shoots: 14; shoots/sec: 700.00
shotgun_cdn_trace	4	0.1	0.01	-2496.34	-297.602095956	2.0000	108.441	0.28	0.27	2011-01-30 11:00:09	Thr: 0.00005; shoots: 26; shoots/sec: 2600.00
shotgun_cdn_trace	6	0.1	0.012	-2496.34	-297.602095956	2.0000	108.441	0.28	0.27	2011-01-30 13:01:43	Thr: 0.00005; shoots: 26; shoots/sec: 2166.67
shotgun_cdn_trace	8	0.1	0.013	-2496.34	None	2.0000	108.441	0.28	0.27	2011-01-29 17:43:35	Thr: 0.00005; shoots: 26; shoots/sec: 2000.00
l1logreg_trace	basic	0.1	0.26927	-2772.01	None	2.0000	107.915	0.2788		2011-01-25 11:13:25	NOTE: has intercept!
SMIDAS_logreg_trace	basic	0.1	1.52571	-3362.93	None	2.0000	11.0711	0.3332		2011-01-21 16:36:52	
sgd_constrate_trace	1	1.0	12.7586	-2587.06	-463.820808411	2.0000	93.8158	0.276444	0.27	2011-01-31 00:00:03	Thr: 1.00000; shoots: 2000000; shoots/sec: 156757.01
sgd_parallel_trace	8	1.0	0.366967	-3079.1	-347.883996725	2.0000	3.11001	0.277778	0.26	2011-01-30 23:30:36	Thr: 1.00000; shoots: 200000; shoots/sec:

											545008.13
sgd_parallel_constrate trace	8	1.0	0.357687	-2587.07	-462.256591797	2.0000	92.9986	0.276222	0.27	2011-01-30 23:30:36	Thr: 1.00000; shoots: 200000; shoots/sec: 559148.08
sgd_seq_best trace	1	1.0	4.00926	-3003.39	-351.205906868	2.0000	9.43192	0.278667	0.26	2011-01-29 19:00:06	Thr: 1.00000; shoots: 2000000; shoots/sec: 498845.17
shotgun_cdn trace	1	1.0	0.017	-2587.05	None	2.0000	93.4272	0.276444	0.268	2011-01-29 17:43:35	Thr: 0.00005; shoots: 22; shoots/sec: 1294.12
shotgun_cdn trace	2	1.0	0.017	-2587.05	None	2.0000	93.4271	0.276444	0.268	2011-01-29 17:43:35	Thr: 0.00005; shoots: 24; shoots/sec: 1411.76
shotgun_cdn trace	4	1.0	0.011	-2587.05	-463.051094055	2.0000	93.4271	0.276444	0.268	2011-01-30 11:00:09	Thr: 0.00005; shoots: 24; shoots/sec: 2181.82
shotgun_cdn trace	6	1.0	0.01	-2587.05	-463.051094055	2.0000	93.4271	0.276444	0.268	2011-01-30 13:01:43	Thr: 0.00005; shoots: 24; shoots/sec: 2400.00
shotgun_cdn trace	8	1.0	0.012	-2587.05	None	2.0000	93.4271	0.276444	0.268	2011-01-29 17:43:35	Thr: 0.00005; shoots: 24; shoots/sec: 2000.00
l1logreg trace	basic	1.0	0.227629	-2862.98	None	2.0000	94.4764	0.2754		2011-01-25 11:13:29	NOTE: has intercept!
SMIDAS_logreg trace	basic	1.0	1.50518	-3380.36	None	2.0000	10.1091	0.3332		2011-01-21 16:36:57	
sgd_seq_best trace	1	10.0	4.15227	-3102.91	-405.088903427	2.0000	3.19979	0.282	0.26	2011-01-29 19:00:05	Thr: 1.00000; shoots: 2000000; shoots/sec: 481664.25
shotgun_cdn trace	1	10.0	0.017	-3052.36	None	1.0000	24.9452	0.282	0.26	2011-01-29 17:43:35	Thr: 0.00005; shoots: 9; shoots/sec: 529.41
shotgun_cdn trace	2	10.0	0.019	-3052.36	None	1.0000	24.9452	0.282	0.26	2011-01-29 17:43:35	Thr: 0.00005; shoots: 9; shoots/sec: 473.68
shotgun_cdn trace	4	10.0	0.017	-3052.36	-809.514011383	1.0000	24.9452	0.282	0.26	2011-01-30 11:00:09	Thr: 0.00005; shoots: 9; shoots/sec: 529.41
shotgun_cdn trace	6	10.0	0.018	-3052.36	-809.514011383	1.0000	24.9452	0.282	0.26	2011-01-30 13:01:43	Thr: 0.00005; shoots: 9; shoots/sec: 500.00

shotgun_cdn_trace	8	10.0	0.019	-3052.36	None	1.0000	24.9452	0.282	0.26	2011-01-29 17:43:35	Thr: 0.00005; shoots: 9; shoots/sec: 473.68
l1logreg_trace	basic	10.0	0.186625	-3359.8	None	1.0000	30.0071	0.28		2011-01-25 11:13:33	NOTE: has intercept!
SMIDAS_logreg_trace	basic	10.0	1.51205	-3466.53	None	2.0000	4.17919	0.3332		2011-01-21 16:37:02	
shotgun_cdn_trace	1	100.0	0.0	-3119.16	None	0.0000	0.0	0.504222	0.524	2011-01-29 17:43:35	Thr: 0.00005; shoots: 2
shotgun_cdn_trace	2	100.0	0.001	-3119.16	None	0.0000	0.0	0.504222	0.524	2011-01-29 17:43:35	Thr: 0.00005; shoots: 2; shoots/sec: 2000.00
shotgun_cdn_trace	4	100.0	0.001	-3119.16	-346.574005127	0.0000	0.0	0.504222	0.524	2011-01-30 11:00:09	Thr: 0.00005; shoots: 2; shoots/sec: 2000.00
shotgun_cdn_trace	6	100.0	0.001	-3119.16	-346.574005127	0.0000	0.0	0.504222	0.524	2011-01-30 13:01:43	Thr: 0.00005; shoots: 2; shoots/sec: 2000.00
shotgun_cdn_trace	8	100.0	0.003	-3119.16	None	0.0000	0.0	0.504222	0.524	2011-01-29 17:43:35	Thr: 0.00005; shoots: 2; shoots/sec: 666.67
l1logreg_trace	basic	100.0	0.105267	-3465.35	None	0.0000	0.0	0.4938		2011-01-25 11:13:37	NOTE: has intercept!
SMIDAS_logreg_trace	basic	100.0	1.11722	-3465.74	None	0.0000	0.0	1.0		2011-01-21 16:37:06	
shotgun_cdn_trace	1	1000.0	0.0	-3119.16	None	0.0000	0.0	0.504222	0.524	2011-01-29 17:43:35	Thr: 0.00005; shoots: 2
shotgun_cdn_trace	2	1000.0	0.001	-3119.16	None	0.0000	0.0	0.504222	0.524	2011-01-29 17:43:35	Thr: 0.00005; shoots: 2; shoots/sec: 2000.00
shotgun_cdn_trace	4	1000.0	0.001	-3119.16	-346.574005127	0.0000	0.0	0.504222	0.524	2011-01-30 11:00:09	Thr: 0.00005; shoots: 2; shoots/sec: 2000.00
shotgun_cdn_trace	6	1000.0	0.001	-3119.16	-346.574005127	0.0000	0.0	0.504222	0.524	2011-01-30 13:01:43	Thr: 0.00005; shoots: 2; shoots/sec: 2000.00
shotgun_cdn_trace	8	1000.0	0.001	-3119.16	None	0.0000	0.0	0.504222	0.524	2011-01-29 17:43:36	Thr: 0.00005; shoots: 2; shoots/sec: 2000.00
l1logreg_trace	basic	1000.0	0.106491	-3465.35	None	0.0000	0.0	0.4938		2011-01-25 11:13:41	NOTE: has intercept!
SMIDAS_logreg_trace	basic	1000.0	1.12831	-3465.74	None	0.0000	0.0	1.0		2011-01-21 16:37:10	

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<http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/> Danil Prokhorov. IJCNN 2001 neural network competition. Slide presentation in IJCNN 01, Ford Research Laboratory, 2001. http://www.geocities.com/ijcnn/nnc_ijcnn01.pdf

n (# of data points)	m (# of features)	% of non-zeros	Comments
49990	22	59.0908	http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	x _0	x _1	Train error	Test error	Updated	Notes
shotgun_cdn trace	1	0.1	9.437	-8417.83	None	21.0000	3208.67	0.073704	0.190438	2011-01-29 17:43:37	Thr: 0.00001; shoots: 2139; shoots/sec: 226.66
shotgun_cdn trace	2	0.1	5.79	-8431.38	None	21.0000	3149.91	0.074215	0.19904	2011-01-29 17:43:37	Thr: 0.00001; shoots: 1968; shoots/sec: 339.90
shotgun_cdn trace	4	0.1	18.828	-9499.74	None	22.0000	3363.26	0.075935		2011-01-29 17:43:38	Thr: 0.00100; shoots: 1606; shoots/sec: 85.30
shotgun_cdn trace	4	0.1	6.373	-8464.08	- 3239.78594217	20.0000	3131.06	0.074615	0.20184	2011-01-30 11:02:12	Thr: 0.00001; shoots: 2135; shoots/sec: 335.01
shotgun_cdn trace	6	0.1	6.22	-8464.08	-3240.4788865	20.0000	3130.89	0.074615	0.20204	2011-01-30 13:01:44	Thr: 0.00001; shoots: 2134; shoots/sec: 343.09
shotgun_cdn trace	8	0.1	8.532	-8417.84	None	21.0000	3205.12	0.073815	0.191238	2011-01-29 17:43:38	Thr: 0.00001; shoots: 2222; shoots/sec: 260.43
l1logreg trace	basic	0.1	5.98494	-9432.01	None	22.0000	2672.79	0.088038		2011-01-25 11:42:27	NOTE: has intercept!
SMIDAS_logreg trace	basic	0.1	112.953	-32275.1	None	18.0000	32.769	0.097442		2011-01-29 08:28:46	
shotgun_cdn trace	1	1.0	6.185	-10825.8	None	18.0000	2276.74	0.077904	0.187037	2011-01-29 17:43:37	Thr: 0.00001; shoots: 1723; shoots/sec: 278.58
shotgun_cdn trace	2	1.0	5.146	-10827.1	None	17.0000	2267.63	0.077771	0.188038	2011-01-29 17:43:37	Thr: 0.00001; shoots: 1748; shoots/sec: 339.68
shotgun_cdn trace	4	1.0	5.241	-10826.0	- 6991.44995117	18.0000	2277.66	0.077971	0.189438	2011-01-30 11:02:12	Thr: 0.00001; shoots:

											1742; shoots/sec: 332.38
shotgun_cdn_trace	6	1.0	3.19	-10828.0	- 6997.95019531	18.0000	2264.81	0.077949	0.191438	2011-01-30 13:01:44	Thr: 0.00001; shoots: 1679; shoots/sec: 526.33
shotgun_cdn_trace	8	1.0	4.237	-10899.5	None	15.0000	2174.19	0.079238	0.20144	2011-01-29 17:43:38	Thr: 0.00001; shoots: 1654; shoots/sec: 390.37
l1logreg_trace	basic	1.0	4.15468	-11203.2	None	18.0000	1431.85	0.083037		2011-01-25 11:42:35	NOTE: has intercept!
SMIDAS_logreg_trace	basic	1.0	117.771	-32334.2	None	15.0000	32.4315	0.097442		2011-01-29 08:30:47	
shotgun_cdn_trace	1	10.0	1.096	-20417.3	None	3.0000	532.742	0.103043	0.115823	2011-01-29 17:43:37	Thr: 0.00001; shoots: 499; shoots/sec: 455.29
shotgun_cdn_trace	2	10.0	1.107	-20417.3	None	3.0000	532.741	0.103043	0.115823	2011-01-29 17:43:37	Thr: 0.00001; shoots: 503; shoots/sec: 454.38
shotgun_cdn_trace	4	10.0	0.844	-20417.3	- 12636.5899658	3.0000	532.742	0.103043	0.115823	2011-01-30 11:02:12	Thr: 0.00001; shoots: 509; shoots/sec: 603.08
shotgun_cdn_trace	6	10.0	1.297	-20417.3	- 12636.5802002	3.0000	532.742	0.103043	0.115823	2011-01-30 13:01:44	Thr: 0.00001; shoots: 509; shoots/sec: 392.44
shotgun_cdn_trace	8	10.0	0.797	-20417.3	None	3.0000	532.742	0.103043	0.115823	2011-01-29 17:43:38	Thr: 0.00001; shoots: 506; shoots/sec: 634.88
l1logreg_trace	basic	10.0	3.73422	-15098.8	None	2.0000	173.319	0.3024		2011-01-25 11:42:42	NOTE: has intercept!
SMIDAS_logreg_trace	basic	10.0	129.839	-32901.0	None	13.0000	29.241	0.097442		2011-01-29 08:33:01	
shotgun_cdn_trace	1	100.0	0.016	-31185.4	None	0.0000	0.0	0.902558	0.906181	2011-01-29 17:43:37	Thr: 0.00001; shoots: 22; shoots/sec: 1375.00
shotgun_cdn_trace	2	100.0	0.019	-31185.4	None	0.0000	0.0	0.902558	0.906181	2011-01-29 17:43:37	Thr: 0.00001; shoots: 22; shoots/sec: 1157.89
shotgun_cdn_trace	4	100.0	0.013	-31185.4	- 3465.04003906	0.0000	0.0	0.902558	0.906181	2011-01-30 11:02:12	Thr: 0.00001; shoots: 22; shoots/sec:

											1692.31
shotgun_cdn_trace	6	100.0	0.016	-31185.4	-3465.04003906	0.0000	0.0	0.902558	0.906181	2011-01-30 13:01:44	Thr: 0.00001; shoots: 22; shoots/sec: 1375.00
shotgun_cdn_trace	8	100.0	0.032	-31185.4	None	0.0000	0.0	0.902558	0.906181	2011-01-29 17:43:38	Thr: 0.00001; shoots: 22; shoots/sec: 687.50
l1logreg_trace	basic	100.0	0.781626	-15927.7	None	0.0000	0.0	0.097079		2011-01-25 11:42:47	NOTE: has intercept!
SMIDAS_logreg_trace	basic	100.0	85.5205	-35912.2	None	9.0000	15.8316	0.097442		2011-01-29 08:34:30	
shotgun_cdn_trace	1	1000.0	0.016	-31185.4	None	0.0000	0.0	0.902558	0.906181	2011-01-29 17:43:37	Thr: 0.00001; shoots: 22; shoots/sec: 1375.00
shotgun_cdn_trace	2	1000.0	0.019	-31185.4	None	0.0000	0.0	0.902558	0.906181	2011-01-29 17:43:37	Thr: 0.00001; shoots: 22; shoots/sec: 1157.89
shotgun_cdn_trace	4	1000.0	0.014	-31185.4	-3465.04003906	0.0000	0.0	0.902558	0.906181	2011-01-30 11:02:12	Thr: 0.00001; shoots: 22; shoots/sec: 1571.43
shotgun_cdn_trace	6	1000.0	0.016	-31185.4	-3465.04003906	0.0000	0.0	0.902558	0.906181	2011-01-30 13:01:44	Thr: 0.00001; shoots: 22; shoots/sec: 1375.00
shotgun_cdn_trace	8	1000.0	0.031	-31185.4	None	0.0000	0.0	0.902558	0.906181	2011-01-29 17:43:38	Thr: 0.00001; shoots: 22; shoots/sec: 709.68
l1logreg_trace	basic	1000.0	0.766563	-15927.7	None	0.0000	0.0	0.097079		2011-01-25 11:42:52	NOTE: has intercept!
SMIDAS_logreg	basic	1000.0	Diverged							2011-01-29 08:35:20	{'trainerror': '0.000000', 'notes': ', '11': 'NaN', '10': '0',

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Class 10-725 assignment material

n (# of data points)	m (# of features)	% of non-zeros	Comments
90	4	100.0	

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	x _0	x _1	Train error	Test error	Updated	Notes
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n (# of data points)	m (# of features)	% of non-zeros	Comments
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Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	$\ x\ _0$	$\ x\ _1$	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	0.5	628.482	-1575250.0	None	184.0000	12603.5	0.506502		2011-01-30 21:33:01	Thr: 0.00100; shoots: 41272; shoots/sec: 65.67
shotgun_cdn_trace	2	0.5	314.263	-1575260.0	None	183.0000	12434.6	0.513553		2011-01-30 21:33:01	Thr: 0.00100; shoots: 40535; shoots/sec: 128.98
shotgun_cdn_trace	4	0.5	184.081	-1575250.0	None	183.0000	12401.1	0.522708		2011-01-30 21:33:01	Thr: 0.00100; shoots: 40535; shoots/sec: 220.20
shotgun_cdn_trace	8	0.5	104.58	-1575240.0	None	185.0000	12697.9	0.526987		2011-01-30 21:33:02	Thr: 0.00100; shoots: 41272; shoots/sec: 394.65
shotgun_cdn_trace	1	1.0	143.966	-1579710.0	None	66.0000	6273.17	0.639868		2011-01-30 21:33:01	Thr: 0.00100; shoots: 16214; shoots/sec: 112.62
shotgun_cdn_trace	2	1.0	79.755	-1579600.0	None	66.0000	6232.53	0.638783		2011-01-30 21:33:01	Thr: 0.00100; shoots: 16951; shoots/sec: 212.54
shotgun_cdn_trace	4	1.0	67.719	-1579300.0	None	69.0000	5717.46	0.645719		2011-01-30 21:33:01	Thr: 0.00100; shoots: 23584; shoots/sec: 348.26
shotgun_cdn_trace	8	1.0	37.333	-1579300.0	None	68.0000	5747.15	0.650751		2011-01-30 21:33:01	Thr: 0.00100; shoots: 18425; shoots/sec: 493.53

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<http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/>

n (# of data points)	m (# of features)	% of non-zeros	Comments
19996	1355191	0.033574	

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	$\ x\ _0$	$\ x\ _1$	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	0.1	11.741	-1578.43	None	4047.0000	11424.5	0.001	0.0445	2011-01-29 17:43:39	Thr: 0.00005; shoots: 4747874;

												shoots/sec: 404384.12
shotgun_cdn_trace	2	0.1	11.967	-1587.56	None	3904.0000	11475.8	0.001	0.043	2011-01-29 17:43:39		Thr: 0.00005; shoots: 4717488; shoots/sec: 394208.07
shotgun_cdn_trace	4	0.1	9.453	-1588.02	- 2559.23995852	3978.0000	11488.0	0.001	0.042	2011-01-30 11:02:12		Thr: 0.00005; shoots: 4715423; shoots/sec: 498828.20
shotgun_cdn_trace	6	0.1	8.928	-1584.37	- 2551.14999267	4179.0000	11468.2	0.001	0.0425	2011-01-30 13:01:44		Thr: 0.00005; shoots: 4740739; shoots/sec: 530996.75
shotgun_cdn_trace	8	0.1	10.4	-1584.15	None	4114.0000	11483.2	0.001	0.0435	2011-01-29 17:43:40		Thr: 0.00005; shoots: 4726127; shoots/sec: 454435.29
l1logreg	basic	0.1	error="MATLAB:badsubscript"							2011-01-25 11:22:27	errmsg="Attempted to access out2(1); index out of bounds becau	
SMIDAS_logreg	basic	0.1	error="MATLAB:badsubscript"							2011-01-28 07:12:02	errmsg="Attempted to access out2(1); index out of bounds becau	
SMIDAS_logreg	basic	0.1	error="MATLAB:badsubscript"							2011-01-28 09:38:38	errmsg="Attempted to access out2(1); index out of bounds becau	
shotgun_cdn_trace	1	1.0	6.182	-6511.04	None	768.0000	2907.43	0.04162	0.067	2011-01-29 17:43:39		Thr: 0.00005; shoots: 4258173; shoots/sec: 688801.84
shotgun_cdn_trace	2	1.0	7.883	-6509.18	None	778.0000	2914.29	0.041065	0.067	2011-01-29 17:43:40		Thr: 0.00005; shoots: 4258155; shoots/sec: 540169.35
shotgun_cdn_trace	4	1.0	5.208	-6509.66	- 6284.04003906	802.0000	2908.87	0.040954	0.068	2011-01-30 11:02:12		Thr: 0.00005; shoots: 4261095; shoots/sec: 818182.60
shotgun_cdn_trace	6	1.0	5.327	-6509.36	-6280.7199707	763.0000	2906.79	0.041731	0.0685	2011-01-30 13:01:44		Thr: 0.00005; shoots: 4257038; shoots/sec: 799143.61
shotgun_cdn_trace	8	1.0	4.852	-6515.75	None	751.0000	2904.45	0.04212	0.068	2011-01-29 17:43:40		Thr: 0.00005; shoots: 4256420; shoots/sec: 877250.62
l1logreg_trace	basic	1.0	530.025	-6919.02	None	1306.0000	3177.6	0.119024		2011-01-25 11:31:23		NOTE: has intercept!
SMIDAS_logreg	basic	1.0	error="MATLAB:badsubscript"							2011-01-	errmsg="Attempted	

										28 09:12:22	to access out2(1); index out of bounds becau
SMIDAS_logreg	basic	1.0	error="MATLAB:badsubscript"							2011-01-28 09:38:50	errmsg="Attempted to access out2(1); index out of bounds becau
shotgun_cdn_trace	1	10.0	1.149	-12366.3	None	9.0000	68.482	0.304957	0.298	2011-01-29 17:43:39	Thr: 0.00005; shoots: 4154411; shoots/sec: 3615675.37
shotgun_cdn_trace	2	10.0	0.72	-12366.3	None	9.0000	68.482	0.304957	0.298	2011-01-29 17:43:40	Thr: 0.00005; shoots: 4154412; shoots/sec: 5770016.67
shotgun_cdn_trace	4	10.0	0.441	-12366.3	- 2668.00007629	9.0000	68.482	0.304957	0.298	2011-01-30 11:02:12	Thr: 0.00005; shoots: 4184022; shoots/sec: 9487578.23
shotgun_cdn_trace	6	10.0	0.517	-12366.3	- 2668.00106812	9.0000	68.4821	0.304957	0.298	2011-01-30 13:01:44	Thr: 0.00005; shoots: 4243244; shoots/sec: 8207435.20
shotgun_cdn_trace	8	10.0	0.522	-12366.3	None	9.0000	68.4821	0.304957	0.298	2011-01-29 17:43:40	Thr: 0.00005; shoots: 4272855; shoots/sec: 8185545.98
l1logreg_trace	basic	10.0	144.288	-13644.1	None	17.0000	105.467	0.271454		2011-01-25 11:33:54	NOTE: has intercept!
SMIDAS_logreg	basic	10.0	error="MATLAB:badsubscript"							2011-01-28 09:39:01	errmsg="Attempted to access out2(1); index out of bounds becau

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n (# of data points)	m (# of features)	% of non-zeros	Comments
209432	191186	0.0022	

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	$\ x\ _0$	$\ x\ _1$	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	0.1	11.915	-90371.9	None	93788.0000	223242.0	0.078902	0.273157	2011-01-29 17:43:40	Thr: 0.0000 shoots: 10579 shoots: 88792
shotgun_cdn_trace	2	0.1	8.311	-90371.2	None	93792.0000	223241.0	0.079061	0.27416	2011-01-29 17:43:40	Thr: 0.0000 shoots: 10584 shoots: 12736
shotgun_cdn_trace	4	0.1	4.316	-90371.1	- 60440.5003327	93947.0000	223255.0	0.07904	0.273587	2011-01-30 11:00:10	Thr: 0.0000

												shoots 10610 shoots 24583
shotgun_cdn_trace	6	0.1	3.175	-90368.8	- 60457.5987703	94055.0000	223327.0	0.078886	0.272775	2011-01-30 13:01:44		Thr: 0.0000 shoots 10631 shoots 33486
shotgun_cdn_trace	8	0.1	3.391	-90370.8	None	94030.0000	223239.0	0.079199	0.273014	2011-01-29 17:43:41		Thr: 0.0000 shoots 10629 shoots 31344
llogreg	basic	0.1	error="MATLAB:badsubscript"						2011-01-25 12:03:59	errmsg="Attempted to access out2(1); index out of bounds becau		
SMIDAS_logreg_trace	basic	0.1	47.2481	- 145167.0	None	261.0000	0.021654	0.406776		2011-01-21 19:23:34		
SMIDAS_logreg	basic	0.1	error="ResultChk:OutOfRange"						2011-01-29 08:35:24	errmsg="Error using ==> wrapper_SMIDAS_logreg at 17		
shotgun_cdn_trace	1	0.5	27.517	- 141171.0	None	43097.0000	25177.1	0.546745		2011-01-29 17:43:40		Thr: 0.0010 shoots 19118 shoots 69479
shotgun_cdn_trace	2	0.5	15.095	- 141171.0	None	43094.0000	25177.1	0.546755		2011-01-29 17:43:40		Thr: 0.0010 shoots 19118 shoots 12665
shotgun_cdn_trace	4	0.5	8.4	- 141171.0	None	43105.0000	25177.1	0.546817		2011-01-29 17:43:41		Thr: 0.0010 shoots 19118 shoots 22760
shotgun_cdn_trace	8	0.5	4.836	- 141171.0	None	43129.0000	25177.1	0.546588		2011-01-29 17:43:41		Thr: 0.0010 shoots 19118 shoots 39533
shotgun_cdn_trace	1	1.0	1.092	- 130503.0	None	1344.0000	755.636	0.231797	0.230376	2011-01-29 17:43:40		Thr: 0.0000 shoots 13298 shoots 12178
shotgun_cdn_trace	2	1.0	0.786	- 130503.0	None	1344.0000	755.636	0.231797	0.230376	2011-01-29 17:43:40		Thr: 0.0000 shoots 13385 shoots 17030
shotgun_cdn_trace	4	1.0	0.482	- 130503.0	-15991.435791	1344.0000	755.636	0.231797	0.230376	2011-01-30 11:00:10		Thr: 0.0000 shoots 13459 shoots 27925
shotgun_cdn_trace	6	1.0	0.444	- 130503.0	-15991.435791	1344.0000	755.636	0.231797	0.230376	2011-01-30 13:01:44		Thr: 0.0000 shoots 14835 shoots

												33413
shotgun_cdn_trace	8	1.0	0.54	-130503.0	None	1344.0000	755.636	0.231797	0.230376	2011-01-29 17:43:41	Thr: 0.0000 shoots 14602 shoots 27042	
l1logreg_trace	basic	1.0	30.0872	-113752.0	None	5376.0000	4067.39	0.216409		2011-01-25 12:04:34	NOTE: interce	
SMIDAS_logreg_trace	basic	1.0	46.9754	-145167.0	None	285.0000	0.021471	0.407779		2011-01-21 19:24:27		
SMIDAS_logreg	basic	1.0	error="ResultChk:OutOfRange"						2011-01-29 08:35:27	errmsg="Error using ==> wrapper_SMIDAS_logreg at 17		
shotgun_cdn_trace	1	10.0	0.132	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:40	Thr: 0.0000 shoots 19118 shoots 14483	
shotgun_cdn_trace	2	10.0	0.091	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:41	Thr: 0.0000 shoots 19118 shoots 21009	
shotgun_cdn_trace	4	10.0	0.063	-130650.0	-14517.2998047	0.0000	0.0	0.237432	0.231761	2011-01-30 11:00:10	Thr: 0.0000 shoots 19118 shoots 30346	
shotgun_cdn_trace	6	10.0	0.065	-130650.0	-14517.2998047	0.0000	0.0	0.237432	0.231761	2011-01-30 13:01:44	Thr: 0.0000 shoots 19118 shoots 29413	
shotgun_cdn_trace	8	10.0	0.092	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:41	Thr: 0.0000 shoots 19118 shoots 20781	
l1logreg_trace	basic	10.0	1.49993	-114651.0	None	0.0000	0.0	0.236864		2011-01-25 12:04:39	NOTE: interce	
SMIDAS_logreg_trace	basic	10.0	47.2217	-145167.0	None	366.0000	0.021141	0.407187		2011-01-21 19:25:19		
SMIDAS_logreg	basic	10.0	error="ResultChk:OutOfRange"						2011-01-29 08:35:31	errmsg="Error using ==> wrapper_SMIDAS_logreg at 17		
shotgun_cdn_trace	1	100.0	0.132	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:40	Thr: 0.0000 shoots 19118 shoots 14483	
shotgun_cdn_trace	2	100.0	0.091	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:41	Thr: 0.0000 shoots 19118 shoots 21009	
shotgun_cdn_trace	4	100.0	0.064	-130650.0	-14517.2998047	0.0000	0.0	0.237432	0.231761	2011-01-30 11:00:10	Thr: 0.0000 shoots 19118 shoots	

shotgun_cdn_trace	6	100.0	0.067	-130650.0	-14517.2998047	0.0000	0.0	0.237432	0.231761	2011-01-30 13:01:44	Thr: 0.0000 shoots 19118 shoots 28535
shotgun_cdn_trace	8	100.0	0.088	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:41	Thr: 0.0000 shoots 19118 shoots 21725
l1logreg_trace	basic	100.0	1.50869	-114651.0	None	0.0000	0.0	0.236864		2011-01-25 12:04:45	NOTE: interce
SMIDAS_logreg_trace	basic	100.0	46.5378	-145169.0	None	149.0000	0.02201	0.406982		2011-01-21 19:26:10	
SMIDAS_logreg	basic	100.0	error="ResultChk:OutOfRange"						2011-01-29 08:35:35	errormsg="Error using ==> wrapper_SMIDAS_logreg at 17	
shotgun_cdn_trace	1	1000.0	0.132	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:40	Thr: 0.0000 shoots 19118 shoots 14483
shotgun_cdn_trace	2	1000.0	0.091	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:41	Thr: 0.0000 shoots 19118 shoots 21009
shotgun_cdn_trace	4	1000.0	0.063	-130650.0	-14517.2998047	0.0000	0.0	0.237432	0.231761	2011-01-30 11:00:10	Thr: 0.0000 shoots 19118 shoots 30346
shotgun_cdn_trace	6	1000.0	0.067	-130650.0	-14517.2998047	0.0000	0.0	0.237432	0.231761	2011-01-30 13:01:44	Thr: 0.0000 shoots 19118 shoots 28535
shotgun_cdn_trace	8	1000.0	0.082	-130650.0	None	0.0000	0.0	0.237432	0.231761	2011-01-29 17:43:41	Thr: 0.0000 shoots 19118 shoots 23315
l1logreg_trace	basic	1000.0	1.5068	-114651.0	None	0.0000	0.0	0.236864		2011-01-25 12:04:51	NOTE: interce
SMIDAS_logreg_trace	basic	1000.0	47.6268	-145186.0	None	342.0000	0.019299	0.403128		2011-01-21 19:27:03	
SMIDAS_logreg	basic	1000.0	error="ResultChk:OutOfRange"						2011-01-29 08:35:39	errormsg="Error using ==> wrapper_SMIDAS_logreg at 17	

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<http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/> David D. Lewis, Yiming Yang, Tony G. Rose, and Fan Li. RCV1: A new benchmark collection for text categorization research. *Journal of Machine Learning Research*, 5:361-397, 2004

n (# of data points)	m (# of features)	% of non-zeros	Comments
20242	44504	0.1664	http://www.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	x ₀	x ₁	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	0.1	134.85	-1574.72	None	3468.0000	10941.3	0.001482		2011-01-29 17:43:42	Thr: 0.00100; shoots: 4450400; shoots/sec: 33002.60
shotgun_cdn_trace	2	0.1	71.116	-1574.8	None	3521.0000	10944.1	0.001482		2011-01-29 17:43:42	Thr: 0.00100; shoots: 4450400; shoots/sec: 62579.45
shotgun_cdn_trace	4	0.1	36.798	-1574.92	None	3515.0000	10932.6	0.001482		2011-01-29 17:43:42	Thr: 0.00100; shoots: 4450400; shoots/sec: 120941.36
shotgun_cdn_trace	8	0.1	19.313	-1574.93	None	3505.0000	10929.2	0.001482		2011-01-29 17:43:43	Thr: 0.00100; shoots: 4450400; shoots/sec: 230435.46
shotgun_cdn_trace	1	0.5	6.204	-4063.52	None	1133.0000	4359.22	0.015151	0.040494	2011-01-29 17:43:42	Thr: 0.00005; shoots: 444607; shoots/sec: 71664.57
shotgun_cdn_trace	2	0.5	6.479	-4063.42	None	1184.0000	4359.76	0.014382	0.040494	2011-01-29 17:43:42	Thr: 0.00005; shoots: 451196; shoots/sec: 69639.76
shotgun_cdn_trace	4	0.5	21.951	-4307.43	None	1477.0000	4620.56	0.016253		2011-01-29 17:43:43	Thr: 0.00100; shoots: 3070776; shoots/sec: 139892.31
shotgun_cdn_trace	8	0.5	2.809	-4063.41	None	1249.0000	4359.93	0.014986	0.040494	2011-01-29 17:43:43	Thr: 0.00005; shoots: 544928; shoots/sec: 193993.59
l1logreg_trace	basic	0.5	37.4898	-4301.33	None	1504.0000	4638.87	0.03883		2011-01-25 11:12:45	NOTE: has intercept!
SMIDAS_logreg_trace	basic	0.5	621.659	-13581.1	None	134.0000	21.8428	0.242685		2011-01-30 01:30:02	
sgd_constrate_trace	1	1.0	3911.06	-5855.35	-5653.12011719	42744.0000	2635.61	0.036285	0.045432	2011-01-29 20:30:10	Thr: 0.04642; shoots: 10000000; shoots/sec: 2556.85
sgd_parallel_constrate_trace	8	1.0	7833.93	-5789.05	-5655.30004883	42744.0000	2640.2	0.037163	0.045926	2011-01-30 03:00:05	Thr: 0.04642; shoots: 20000000; shoots/sec: 2553.00
sgd_seq_best	1	1.0	35854.5	-7683.86	-4396.23999023	42744.0000	1867.28	0.044629	0.05284	2011-01-29	Thr: 1.00000;

											17:43:44	shoots: 5000000; shoots/sec: 1394.53
shotgun_cdn_trace	1	1.0	5.169	-5716.84	None	433.0000	2588.22	0.039688	0.044444	2011-01-29 17:43:42	Thr: 0.00005; shoots: 386092; shoots/sec: 74693.75	
shotgun_cdn_trace	2	1.0	5.07	-5716.81	None	443.0000	2588.59	0.039798	0.044444	2011-01-29 17:43:42	Thr: 0.00005; shoots: 513756; shoots/sec: 101332.54	
shotgun_cdn_trace	4	1.0	1.454	-5716.81	- 5546.97998047	447.0000	2588.6	0.039798	0.044444	2011-01-30 11:02:12	Thr: 0.00005; shoots: 320254; shoots/sec: 220257.22	
shotgun_cdn_trace	6	1.0	1.445	-5716.81	- 5546.97998047	447.0000	2588.6	0.039798	0.044444	2011-01-30 13:01:45	Thr: 0.00005; shoots: 333283; shoots/sec: 230645.67	
shotgun_cdn_trace	8	1.0	1.324	-5716.81	None	442.0000	2588.6	0.039798	0.044444	2011-01-29 17:43:43	Thr: 0.00005; shoots: 319931; shoots/sec: 241639.73	
l1logreg_trace	basic	1.0	16.0331	-6065.06	None	514.0000	2777.26	0.051527		2011-01-25 11:13:05	NOTE: has intercept!	
SMIDAS_logreg_trace	basic	1.0	622.276	-13595.5	None	133.0000	21.7154	0.240654		2011-01-30 01:40:28		
shotgun_cdn_trace	1	2.0	3.355	-8178.49	None	238.0000	1651.93	0.059678		2011-01-29 17:43:42	Thr: 0.00005; shoots: 101021; shoots/sec: 30110.58	
sgd_constrate_trace	1	10.0	3920.06	-12200.4	- 4120.72988892	42744.0000	146.48	0.159247	0.156543	2011-01-29 21:30:05	Thr: 0.01000; shoots: 10000000; shoots/sec: 2550.98	
sgd_parallel_constrate_trace	8	10.0	7856.08	-12155.6	-4326.7300415	42744.0000	157.736	0.151562	0.148642	2011-01-30 05:30:08	Thr: 0.01000; shoots: 20000000; shoots/sec: 2545.80	
shotgun_cdn_trace	1	10.0	0.241	-12102.4	None	16.0000	160.049	0.206291	0.205432	2011-01-29 17:43:42	Thr: 0.00005; shoots: 154848; shoots/sec: 642522.82	
shotgun_cdn_trace	2	10.0	0.223	-12102.4	None	16.0000	160.049	0.206291	0.205432	2011-01-29 17:43:42	Thr: 0.00005; shoots: 154839; shoots/sec: 694345.29	
shotgun_cdn_trace	4	10.0	0.106	-12102.4	- 4363.62985229	16.0000	160.049	0.206291	0.205432	2011-01-30	Thr: 0.00005;	

										11:02:13	shoots: 156627; shoots/sec: 1477613.21
shotgun_cdn trace	6	10.0	0.14	-12102.4	-4363.64993286	16.0000	160.05	0.206291	0.205432	2011-01-30 13:01:45	Thr: 0.00005; shoots: 160174; shoots/sec: 1144100.00
shotgun_cdn trace	8	10.0	0.208	-12102.4	None	16.0000	160.05	0.206291	0.205432	2011-01-29 17:43:43	Thr: 0.00005; shoots: 163729; shoots/sec: 787158.65
l1logreg trace	basic	10.0	10.4682	-13231.5	None	19.0000	207.909	0.196621		2011-01-25 11:13:20	NOTE: has intercept!
SMIDAS_logreg trace	basic	10.0	634.517	-13831.5	None	144.0000	19.6528	0.219246		2011-01-30 01:51:07	
sgd_seq_best trace	1	50.0	0.004592	-12627.2	-1403.8154707	595.0000	0.00191	0.355053	0.342222	2011-01-29 17:43:44	Thr: 0.00020; shoots: 10; shoots/sec: 2177.70
shotgun_cdn	1	100.0	0.14	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:42	Thr: 0.00100; shoots: 44504; shoots/sec: 317885.71
shotgun_cdn	2	100.0	0.085	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:42	Thr: 0.00100; shoots: 44504; shoots/sec: 523576.47
shotgun_cdn	4	100.0	0.059	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:42	Thr: 0.00100; shoots: 44504; shoots/sec: 754305.08
shotgun_cdn	8	100.0	0.056	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:43	Thr: 0.00100; shoots: 44504; shoots/sec: 794714.29
shotgun_cdn trace	1	1000.0	0.141	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:42	Thr: 0.00100; shoots: 44504; shoots/sec: 315631.21
shotgun_cdn trace	2	1000.0	0.084	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:42	Thr: 0.00100; shoots: 44504; shoots/sec: 529809.52
shotgun_cdn trace	4	1000.0	0.059	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:43	Thr: 0.00100; shoots: 44504; shoots/sec: 754305.08
shotgun_cdn trace	8	1000.0	0.057	-14030.7	None	0.0000	0.0	1.0		2011-01-29 17:43:43	Thr: 0.00100; shoots:

44504;
shoots/sec:
780771.93

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n (# of data points)	m (# of features)	% of non-zeros	Comments
677399	42735	0.1712	

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	x _0	x _1	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	1.0	462.979	-95166.0	None	1506.0000	36198.2	0.028398	0.028905	2011-01-29 17:43:44	Thr: 0.00005; shoots: 284206; shoots/sec: 613.86
shotgun_cdn_trace	2	1.0	374.449	-94988.2	None	1758.0000	36578.1	0.027976	0.028536	2011-01-29 17:43:44	Thr: 0.00005; shoots: 370528; shoots/sec: 989.53
shotgun_cdn_trace	4	1.0	226.862	-94988.4	-79800.5	1762.0000	36576.9	0.027963	0.028477	2011-01-30 11:00:10	Thr: 0.00005; shoots: 370885; shoots/sec: 1634.85
shotgun_cdn_trace	6	1.0	177.073	-94995.6	-79774.703125	1777.0000	36562.6	0.027962	0.028491	2011-01-30 13:01:45	Thr: 0.00005; shoots: 368809; shoots/sec: 2082.81
shotgun_cdn_trace	8	1.0	184.955	-94988.1	None	1765.0000	36578.4	0.027966	0.028506	2011-01-29 17:43:44	Thr: 0.00005; shoots: 374463; shoots/sec: 2024.62
l1logreg_trace	basic	1.0	649.325	-101159.0	None	1977.0000	38831.3	0.040472		2011-01-25 11:54:24	NOTE: has intercept!
SMIDAS_logreg	basic	1.0	error="MATLAB:badsubscript"						2011-01-29 08:26:03	errmsg="Attempted to access out2(1); index out of bounds becau	
shotgun_cdn_trace	1	10.0	225.083	-242984.0	None	222.0000	9454.9	0.064467	0.065855	2011-01-29 17:43:44	Thr: 0.00005; shoots: 251546; shoots/sec: 1117.57
shotgun_cdn_trace	2	10.0	156.55	-242984.0	None	222.0000	9454.89	0.064462	0.065855	2011-01-29 17:43:44	Thr: 0.00005; shoots: 247149; shoots/sec: 1578.72
shotgun_cdn_trace	4	10.0	84.973	-242984.0	-205649.501953	222.0000	9454.95	0.064466	0.06584	2011-01-30 11:00:10	Thr: 0.00005; shoots: 245453; shoots/sec: 2888.60

shotgun_cdn_trace	6	10.0	68.23	-242984.0	-205649.296875	222.0000	9454.93	0.064461	0.06584	2011-01-30 13:01:45	Thr: 0.00005; shoots: 245398; shoots/sec: 3596.63
shotgun_cdn_trace	8	10.0	97.057	-242984.0	None	222.0000	9454.92	0.064462	0.06584	2011-01-29 17:43:44	Thr: 0.00005; shoots: 250661; shoots/sec: 2582.62
l1logreg_trace	basic	10.0	327.347	-258965.0	None	238.0000	10212.8	0.077657		2011-01-25 12:00:05	NOTE: has intercept!
SMIDAS_logreg	basic	10.0	error="MATLAB:badsubscript"						2011-01-29 08:26:49	errmsg="Attempted to access out2(1); index out of bounds becau	

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n (# of data points)	m (# of features)	% of non-zeros	Comments
500000	2000	100.0	

Detailed results

Algorithm	Configuration	Lambda	Time sec	Objective	Test llhood	x _0	x _1	Train error	Test error	Updated	Notes
shotgun_cdn_trace	1	0.1	8071.25	-96257.4	None	642.0000	91473.5	0.05506	0.0564	2011-01-29 17:43:44	Thr: 0.00005 shoots: 82280; shoots/s: 10.19
shotgun_cdn_trace	2	0.1	5470.07	-96149.1	None	652.0000	89799.3	0.055222	0.05648	2011-01-29 17:43:45	Thr: 0.00005 shoots: 83386; shoots/s: 15.24
shotgun_cdn_trace	8	0.1	2786.67	-96260.0	None	703.0000	89701.5	0.055133	0.0565	2011-01-29 17:43:44	Thr: 0.00005 shoots: 88944; shoots/s: 31.92
sgd_constrate_trace	1	1.0	3610.08	-150349.0	-81036.203125	2000.0000	33994.1	0.061358	0.06358	2011-01-29 17:43:45	Thr: 1.00000 shoots: 500000 shoots/s: 13850.1
sgd_parallel_trace	8	1.0	1171.7	-310020.0	-34620.4382172	2000.0000	93.239	0.211709	0.21234	2011-01-30 00:30:07	Thr: 1.00000 shoots: 200000 shoots/s: 17069.2
sgd_parallel_constrate_trace	8	1.0	1164.02	-157859.0	-67990.8007812	2000.0000	26671.7	0.063553	0.06534	2011-01-31 02:00:08	Thr: 1.00000 shoots: 200000 shoots/s: 17181.8
sgd_seq_best_trace	1	1.0	3677.06	-308966.0	-34601.7962189	2000.0000	146.097	0.210089	0.21072	2011-01-29 17:43:45	Thr: 1.00000 shoots: 500000

												shoots/s: 13597.8
shotgun_cdn_trace	1	1.0	2647.09	-148275.0	None	240.0000	39870.6	0.061618	0.06268	2011-01-29 17:43:44	Thr: 0.00005 shoots: 30246; shoots/s: 11.43	
shotgun_cdn_trace	2	1.0	1715.39	-148015.0	None	260.0000	40384.2	0.060429	0.062	2011-01-29 17:43:44	Thr: 0.00005 shoots: 34107; shoots/s: 19.88	
shotgun_cdn_trace	4	1.0	1023.37	-147990.0	-93113.5	259.0000	40489.0	0.060318	0.062	2011-01-30 14:02:04	Thr: 0.00005 shoots: 34241; shoots/s: 33.46	
shotgun_cdn_trace	8	1.0	947.563	-147990.0	None	259.0000	40488.6	0.060322	0.0621	2011-01-29 17:43:44	Thr: 0.00005 shoots: 34456; shoots/s: 36.36	
l1logreg	basic	1.0	error="MATLAB:badsubscript"							2011-01-25 01:55:19	errmsg="Attempted to access out2(1); index out of bounds becau	
l1logreg	basic	1.0	error="MATLAB:badsubscript"							2011-01-25 11:08:43	errmsg="Attempted to access out2(1); index out of bounds becau	
SMIDAS_logreg_trace	basic	1.0	19253.6	-297208.0	None	225.0000	1698.33	0.187962		2011-01-30 22:20:05		
sgd_seq_best	1	10.0	3726.57	-310769.0	-35785.2800293	2000.0000	66.578	0.210064	0.20958	2011-01-29 17:43:45	Thr: 1.00000 shoots: 500000 shoots/s: 13417.1	
shotgun_cdn_trace	1	10.0	564.5	-271282.0	None	81.0000	5020.25	0.129487	0.12866	2011-01-29 17:43:44	Thr: 0.00005 shoots: 14681; shoots/s: 26.01	
shotgun_cdn_trace	2	10.0	326.663	-271282.0	None	81.0000	5020.32	0.129493	0.12864	2011-01-29 17:43:44	Thr: 0.00005 shoots: 13545; shoots/s: 41.46	
shotgun_cdn_trace	4	10.0	223.026	-269994.0	None	88.0000	3719.08	0.139444	0.13904	2011-01-29 17:43:44	Thr: 0.00005 shoots: 13019; shoots/s: 58.37	
shotgun_cdn_trace	6	10.0	244.363	-271282.0	-124874.899414	81.0000	5020.28	0.129496	0.12864	2011-01-30 14:31:58	Thr: 0.00005 shoots: 12981; shoots/s: 53.12	
shotgun_cdn_trace	8	10.0	292.65	-271282.0	None	81.0000	5020.28	0.129496	0.12864	2011-01-29 17:43:44	Thr: 0.00005 shoots: 18009; shoots/s: 61.54	

l1logreg	basic	10.0	error="MATLAB:badsubscript"						2011-01-25 01:58:37	errmsg="Attempted to access out2(1); index out of bounds becau
l1logreg	basic	10.0	error="MATLAB:badsubscript"						2011-01-25 11:12:03	errmsg="Attempted to access out2(1); index out of bounds becau
SMIDAS_logreg	basic	10.0	error="MATLAB:badsubscript"						2011-01-30 01:19:36	errmsg="Attempted to access out2(1); index out of bounds becau