

CSCI 5525 HW2

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2: Logistic Regression

Error rate for Logistic Regression												
η	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	Mean	SD
0.00000	0.50000	0.54375	0.53125	0.51875	0.48750	0.50000	0.63125	0.58750	0.55000	0.47500	0.53250	0.04565
0.00001	0.15000	0.21250	0.14375	0.21250	0.15625	0.15000	0.20000	0.19375	0.13125	0.11250	0.16625	0.03380
0.00010	0.01250	0.00625	0.00625	0.03750	0.01250	0.00625	0.03750	0.01875	0.01875	0.01250	0.01688	0.01120
0.00100	0.01250	0.00625	0.00000	0.03125	0.01875	0.00625	0.03750	0.01875	0.01250	0.00625	0.01500	0.01125
0.01000	0.01250	0.00625	0.00000	0.02500	0.01250	0.00625	0.03125	0.01250	0.00625	0.00625	0.01188	0.00904

Best $\eta = 0.01$.

Logistic Regression test error rate: 0.005

4: SVM

Error rate for SVM												
η, c	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	Mean	SD
(1e-05, 0.01)	0.01250	0.00625	0.00000	0.03125	0.01875	0.00625	0.03125	0.01875	0.01250	0.00625	0.01438	0.01010
(1e-05, 0.1)	0.01250	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.01250	0.00625	0.00625	0.01250	0.00927
(1e-05, 1)	0.00625	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.01250	0.01250	0.01250	0.01313	0.00904
(1e-05, 10)	0.00625	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.00625	0.01250	0.01250	0.01250	0.00927
(1e-05, 100)	0.01250	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.00625	0.01250	0.00625	0.01250	0.00927
(0.0001, 0.01)	0.01250	0.00625	0.00000	0.02500	0.01250	0.00625	0.03125	0.01250	0.00625	0.00625	0.01188	0.00904
(0.0001, 0.1)	0.00625	0.00625	0.00000	0.02500	0.01250	0.00000	0.03125	0.01250	0.00625	0.00625	0.01063	0.00970
(0.0001, 1)	0.00625	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.01250	0.01250	0.01250	0.01313	0.00904
(0.0001, 10)	0.01250	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.00625	0.01250	0.01250	0.01313	0.00904
(0.0001, 100)	0.00625	0.00625	0.00000	0.02500	0.01250	0.00625	0.03125	0.00625	0.31250	0.01250	0.04188	0.09066
(0.001, 0.01)	0.01250	0.00625	0.00000	0.02500	0.01250	0.00625	0.03125	0.01250	0.00625	0.00625	0.01188	0.00904
(0.001, 0.1)	0.00625	0.00625	0.00000	0.02500	0.01250	0.00000	0.03125	0.01250	0.00625	0.00625	0.01063	0.00970
(0.001, 1)	0.00625	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.01875	0.01250	0.00625	0.01313	0.00946
(0.001, 10)	0.00625	0.00625	0.00000	0.03125	0.01875	0.00625	0.03125	0.01250	0.08750	0.36250	0.05625	0.10488
(0.001, 100)	0.01250	0.00625	0.00000	0.02500	0.01875	0.00625	0.03125	0.01250	0.02500	0.04375	0.01813	0.01264

Best η and c : 0.0001, 0.1

Test error rate: 0.0075