MLP Binary

Epoch	h1	h2	nu	mu	test error
54	10	90	0.1	0.9	0.0849
12	90	10	0.1	0.9	0.0640
13	50	50	0.1	0.9	0.0475
36	50	50	0.1	0.1	0.0850
37	50	50	0.1	0.9	0.1167
2	50	50	0.9	0.9	NaN
47 (W = gauss)	**50**	**50**	**0.1**	**0.1**	**0.0808**
3 (W = 1)	50	50	0.1	0.1	0.7005
3 (W = 0.1)	50	50	0.1	0.1	0.6934

zero_one_error_test = 0.0244 – test error std: 0.0642

Linear Regression

Test Error: 0.4763 zoerror = 0.2054

v* = 10

901	67	76	4	32
306	751	2	0	21
93	21	737	117	112
8	0	20	1036	16
6	0	17	191	866

Logistic Regression

Epoch Count	nu	mu	test_err
105	0.1	0.1	0.7280
114	0.1	0.9	0.5471
101	0.9	0.9	1.4077
92 (W gauss.)	0.1	0.9	0.5623
41 (W gauss. var = 1/100n)	0.1	0.9	0.5963
70(W = 0.1)	**0.1**	**0.9**	**0.5577**

test_err_std = 0.0210 zotest = 0.2106

866	127	84	0	3
174	888	5	0	13
158	77	694	13	138
6	0	6	1015	53
23	0	65	192	800

Multiway MLP

Epoch	h1	h2	nu	mu	test error
65	10	90	0.1	0.9	0.2548
12	90	10	0.1	0.9	NaN
17	50	50	0.1	0.9	0.1359
3	50	50	0.1	0.1	NaN
29	50	50	0.1	0.9	0.1534
3	50	50	0.9	0.9	NaN
36 (var = 1/n)	50	50	0.1	0.9	0.1398
3 (var = 1/2n)	50	50	0.1	0.9	0.1322
3 (var = 1/100n)	**50**	**50**	**0.1**	**0.9**	**0.1281**

test error std: 0.0059 zoerr = 0.1894

MLP Multi Confusion Matrix for Chosen Model

0	**1**	**2**	**3**	**4**	
974	73	31	0	2	**0**
156	917	1	0	6	**1**
264	10	691	12	103	**2**
3	0	1	1038	38	**3**
10	0	41	229	800	**4**