University of Huddersfield

OPTIMAL MODEL-PARAMETER DETERMINATION FOR FEEDFORWARD ARTIFICIAL NEURAL NETWORKS

by
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The very large tables in this appendices been removed to reduce the total size of Thesis. The full appendices can be found in the accompanying GitHub repository: Optimal-Model-parameter-Determination-for-Feedforward-Artificial-Neural-Networks.

Appendix A

Regression Problems Summary

Table A.1: Regression Problems Summary.

Dataset Name	# Attributes (R/I/N)	# Samples
abalone	8 (7/1/0)	4177
ANACALT	7 (7/0/0)	4052
autoMPG6	5 (2/3/0)	392
autoMPG8	7 (2/5/0)	392
baseball	16 (2/14/0)	337
compactiv	21 (21/0/0)	8192
concrete	8 (7/1/0)	1030
dee	6 (6/0/0)	365
delta_ail	5 (5/0/0)	7129
delta_elv	6 (5/1/0)	9517
diabetes	2 (2/0/0)	43
ele1	2 (1/1/0)	495
ele2	4 (4/0/0)	1056
forestFires	12 (7/5/0)	517
friedman	5 (5/0/0)	1200
laser	4 (4/0/0)	993
machineCPU	6 (0/6/0)	209
mortgage	15 (15/0/0)	1049
plastic	2 (2/0/0)	1650
puma32h	32 (32/0/0)	8192
quake	3 (2/1/0)	2178
stock	9 (9/0/0)	950
tic	85 (0/85/0)	9822
treasury	15 (15/0/0)	1049
wankara	9 (9/0/0)	1609
wizmir	9 (9/0/0)	1461

Appendix B

Classification Problems Summary

Table B.1: Classification Problems Summary.

Dataset Name	# Attributes (R/I/N)	# Samples	# Classes
appendicitis	7 (7/0/0)	106	2
australian	14 (3/5/6)	690	2
automobile	25 (15/0/10)	150	6
balance	4 (4/0/0)	625	3
bands	19 (13/6/0)	365	2
breast	9 (0/0/9)	277	2
bupa	6 (1/5/0)	345	2
cleveland	13 (13/0/0)	297	5
crx	15 (3/3/9)	653	2
ecoli	7 (7/0/0)	336	8
flare	11 (0/0/11)	1066	6
german	20 (0/7/13)	1000	2
glass	9 (9/0/0)	214	7
haberman	3 (0/3/0)	306	2
hayesroth	4 (0/4/0)	160	3
heart	13 (1/12/0)	270	2
hepatitis	19 (2/17/0)	80	2
housevotes	16 (0/0/16)	232	2
ionosphere	33 (32/1/0)	351	2
iris	4 (4/0/0)	150	3
led7digit	7 (7/0/0)	500	10
lymphography	18 (0/3/15)	148	4
mammographic	5 (0/5/0)	830	2
monk2	6 (0/6/0)	432	2
newthyroid	5 (4/1/0)	215	3
pima	8 (8/0/0)	768	2
postoperative	8 (0/0/8)	87	3
saheart	9 (5/3/1)	462	2
tae	5 (0/5/0)	151	3
tictactoe	9 (0/0/9)	958	2
vehicle	18 (0/18/0)	846	4
vowel	13 (10/3/0)	990	11
wine	13 (13/0/0)	178	3
wisconsin	9 (0/9/0)	683	2
zoo	16 (0/0/16)	101	7

Appendix C

All Regression Results

Table C.1: All Results of regression problems (1/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adadelta	ANACALT	580.705	0.29	N/A	1000	1000	Tanh
Adadelta	ANACALT	280.449	0.101	N/A	1000	142	Tanh
Adadelta	ANACALT	216.471	0.378	N/A	1000	1000	SoftRelu
Adadelta	ANACALT	621.819	56.3	N/A	1000	172	SoftRelu
Adadelta	ANACALT	767.139	0.0774	N/A	1000	1000	Relu
Adadelta	ANACALT	698.065	4.41	N/A	1000	200	Relu
Adagrad	ANACALT	589.535	0.0678	N/A	1000	1000	Tanh
Adagrad	ANACALT	356.292	0.0677	N/A	1000	142	Tanh
Adagrad	ANACALT	261.803	0.0693	N/A	1000	1000	SoftRelu
Adagrad	ANACALT	280.505	0.0757	N/A	1000	172	SoftRelu
Adagrad	ANACALT	828.377	0.0702	N/A	1000	1000	Relu
Adagrad	ANACALT	509.936	0.0731	N/A	1000	200	Relu
Adam	ANACALT	720.45	0.068	N/A	1000	1000	Tanh
Adam	ANACALT	152.264	0.068	N/A	1000	142	Tanh
Adam	ANACALT	407.546	0.0683	N/A	1000	1000	SoftRelu
Adam	ANACALT	401.976	0.0685	N/A	1000	172	SoftRelu
Adam	ANACALT	868.372	0.0686	N/A	1000	1000	Relu
Adam	ANACALT	536.851	0.0706	N/A	1000	200	Relu
CSEEM	ANACALT	2.744	0.00148	8	N/A	170	Tanh
CSEEM	ANACALT	163.274	0.00149	8	N/A	160	SoftRelu
CSEEM	ANACALT	544.13	0.00161	8	N/A	167	Relu
CSEEM	ANACALT	26.011	0.00234	16	N/A	142	Tanh
CSEEM	ANACALT	787.991	0.00118	16	N/A	172	SoftRelu
CSEEM	ANACALT	576.666	0.00149	16	N/A	200	Relu
CSEEM	ANACALT	346.251	0.00131	32	N/A	170	Tanh
CSEEM	ANACALT	302.342	0.00213	32	N/A	136	SoftRelu
CSEEM	ANACALT	881.936	0.00192	32	N/A	166	Relu
RMSprop	ANACALT	771.52	0.124	N/A	1000	1000	Tanh

Table C.2: All Results of regression problems (2/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
RMSprop	ANACALT	8.209	0.0692	N/A	1000	142	Tanh
RMSprop	ANACALT	747.001	104	N/A	1000	1000	SoftRelu
RMSprop	ANACALT	404.303	47.9	N/A	1000	172	SoftRelu
RMSprop	ANACALT	731.554	69.4	N/A	1000	1000	Relu
RMSprop	ANACALT	543.737	41.1	N/A	1000	200	Relu
SGD	ANACALT	477.362	nan	N/A	1000	1000	Tanh
SGD	ANACALT	830.015	0.068	N/A	1000	142	Tanh
SGD	ANACALT	183.617	nan	N/A	1000	1000	SoftRelu
SGD	ANACALT	355.601	nan	N/A	1000	172	SoftRelu
SGD	ANACALT	857.611	2.54e+05	N/A	1000	1000	Relu
SGD	ANACALT	461.991	1.88e+09	N/A	1000	200	Relu
Adadelta	abalone	33.266	0.911	N/A	1000	1000	Tanh
Adadelta	abalone	297.904	0.873	N/A	1000	384	Tanh
Adadelta	abalone	530.531	0.795	N/A	1000	1000	SoftRelu
Adadelta	abalone	688.438	0.805	N/A	1000	398	SoftRelu
Adadelta	abalone	497.215	0.909	N/A	1000	1000	Relu
Adadelta	abalone	620.234	1.01	N/A	1000	356	Relu
Adagrad	abalone	112.624	0.204	N/A	1000	1000	Tanh
Adagrad	abalone	232.232	0.283	N/A	1000	384	Tanh
Adagrad	abalone	511.479	0.0957	N/A	1000	1000	SoftRelu
Adagrad	abalone	662.119	0.112	N/A	1000	398	SoftRelu
Adagrad	abalone	444.317	0.406	N/A	1000	1000	Relu
Adagrad	abalone	70.905	0.551	N/A	1000	356	Relu
Adam	abalone	100.821	0.0445	N/A	1000	1000	Tanh
Adam	abalone	456.648	0.048	N/A	1000	384	Tanh
Adam	abalone	840.155	0.0539	N/A	1000	1000	SoftRelu
Adam	abalone	693.838	0.058	N/A	1000	398	SoftRelu
Adam	abalone	227.978	0.0432	N/A	1000	1000	Relu

Table C.3: All Results of regression problems (3/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adam	abalone	53.092	0.0452	N/A	1000	356	Relu
CSEEM	abalone	747.116	0.0413	8	N/A	333	Tanh
CSEEM	abalone	793.895	0.0398	8	N/A	346	SoftRelu
CSEEM	abalone	527.646	0.0395	8	N/A	380	Relu
CSEEM	abalone	493.441	0.0407	16	N/A	384	Tanh
CSEEM	abalone	294.555	0.0388	16	N/A	398	SoftRelu
CSEEM	abalone	633.348	0.04	16	N/A	356	Relu
CSEEM	abalone	488.342	0.0396	32	N/A	420	Tanh
CSEEM	abalone	232.411	0.038	32	N/A	432	SoftRelu
CSEEM	abalone	819.874	0.0403	32	N/A	331	Relu
RMSprop	abalone	700.127	0.0461	N/A	1000	1000	Tanh
RMSprop	abalone	232.514	0.0451	N/A	1000	384	Tanh
RMSprop	abalone	769.721	0.0477	N/A	1000	1000	SoftRelu
RMSprop	abalone	655.163	0.0456	N/A	1000	398	SoftRelu
RMSprop	abalone	607.625	0.0445	N/A	1000	1000	Relu
RMSprop	abalone	848.14	0.044	N/A	1000	356	Relu
SGD	abalone	8.933	0.102	N/A	1000	1000	Tanh
SGD	abalone	186.816	0.102	N/A	1000	384	Tanh
SGD	abalone	418.51	0.0894	N/A	1000	1000	SoftRelu
SGD	abalone	589.112	0.0908	N/A	1000	398	SoftRelu
SGD	abalone	710.912	0.114	N/A	1000	1000	Relu
SGD	abalone	15.695	0.109	N/A	1000	356	Relu
Adadelta	autoMPG6	485.194	0.782	N/A	1000	1000	Tanh
Adadelta	autoMPG6	265.054	1.07	N/A	1000	38	Tanh
Adadelta	autoMPG6	928.73	0.265	N/A	1000	1000	SoftRelu
Adadelta	autoMPG6	357.401	39.5	N/A	1000	33	SoftRelu
Adadelta	autoMPG6	672.682	0.195	N/A	1000	1000	Relu
Adadelta	autoMPG6	375.451	16.3	N/A	1000	39	Relu

Table C.4: All Results of regression problems (4/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adagrad	autoMPG6	457.331	0.0843	N/A	1000	1000	Tanh
Adagrad	autoMPG6	247.957	0.698	N/A	1000	38	Tanh
Adagrad	autoMPG6	875.565	0.0383	N/A	1000	1000	SoftRelu
Adagrad	autoMPG6	321.259	2.2	N/A	1000	33	SoftRelu
Adagrad	autoMPG6	732.427	0.0517	N/A	1000	1000	Relu
Adagrad	autoMPG6	448.061	1.89	N/A	1000	39	Relu
Adam	autoMPG6	525.986	0.0593	N/A	1000	1000	Tanh
Adam	autoMPG6	348.663	0.102	N/A	1000	38	Tanh
Adam	autoMPG6	58.878	0.0124	N/A	1000	1000	SoftRelu
Adam	autoMPG6	362.528	0.14	N/A	1000	33	SoftRelu
Adam	autoMPG6	713.338	0.0201	N/A	1000	1000	Relu
Adam	autoMPG6	386.704	0.132	N/A	1000	39	Relu
CSEEM	autoMPG6	115.89	0.0274	8	N/A	36	Tanh
CSEEM	autoMPG6	116.896	0.0266	8	N/A	25	SoftRelu
CSEEM	autoMPG6	113.391	0.0238	8	N/A	45	Relu
CSEEM	autoMPG6	172.0	0.0306	16	N/A	38	Tanh
CSEEM	autoMPG6	436.007	0.0259	16	N/A	33	SoftRelu
CSEEM	autoMPG6	481.987	0.0253	16	N/A	39	Relu
CSEEM	autoMPG6	654.961	0.0282	32	N/A	17	Tanh
CSEEM	autoMPG6	532.572	0.0267	32	N/A	29	SoftRelu
CSEEM	autoMPG6	354.183	0.0288	32	N/A	34	Relu
RMSprop	autoMPG6	116.998	0.0257	N/A	1000	1000	Tanh
RMSprop	autoMPG6	349.293	0.0993	N/A	1000	38	Tanh
RMSprop	autoMPG6	798.0	1.72	N/A	1000	1000	SoftRelu
RMSprop	autoMPG6	378.336	0.191	N/A	1000	33	SoftRelu
RMSprop	autoMPG6	599.222	1.9	N/A	1000	1000	Relu
RMSprop	autoMPG6	406.924	0.297	N/A	1000	39	Relu
SGD	autoMPG6	431.124	0.0994	N/A	1000	1000	Tanh

Table C.5: All Results of regression problems (5/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
SGD	autoMPG6	232.35	0.168	N/A	1000	38	Tanh
SGD	autoMPG6	994.217	0.972	N/A	1000	1000	SoftRelu
SGD	autoMPG6	314.725	9.9	N/A	1000	33	SoftRelu
SGD	autoMPG6	636.694	0.334	N/A	1000	1000	Relu
SGD	autoMPG6	364.451	45.7	N/A	1000	39	Relu
Adadelta	autoMPG8	618.389	0.706	N/A	1000	1000	Tanh
Adadelta	autoMPG8	326.01	0.926	N/A	1000	35	Tanh
Adadelta	autoMPG8	984.783	0.237	N/A	1000	1000	SoftRelu
Adadelta	autoMPG8	353.089	3.7e+03	N/A	1000	38	SoftRelu
Adadelta	autoMPG8	755.185	0.435	N/A	1000	1000	Relu
Adadelta	autoMPG8	416.259	109	N/A	1000	36	Relu
Adagrad	autoMPG8	493.993	0.0822	N/A	1000	1000	Tanh
Adagrad	autoMPG8	251.202	0.941	N/A	1000	35	Tanh
Adagrad	autoMPG8	962.37	0.053	N/A	1000	1000	SoftRelu
Adagrad	autoMPG8	345.738	0.664	N/A	1000	38	SoftRelu
Adagrad	autoMPG8	669.654	0.0428	N/A	1000	1000	Relu
Adagrad	autoMPG8	349.372	0.418	N/A	1000	36	Relu
Adam	autoMPG8	552.245	0.0435	N/A	1000	1000	Tanh
Adam	autoMPG8	291.753	0.107	N/A	1000	35	Tanh
Adam	autoMPG8	71.292	0.0276	N/A	1000	1000	SoftRelu
Adam	autoMPG8	377.971	0.329	N/A	1000	38	SoftRelu
Adam	autoMPG8	731.318	0.016	N/A	1000	1000	Relu
Adam	autoMPG8	382.32	0.0302	N/A	1000	36	Relu
CSEEM	autoMPG8	147.137	0.0359	8	N/A	34	Tanh
CSEEM	autoMPG8	30.142	0.0291	8	N/A	31	SoftRelu
CSEEM	autoMPG8	138.522	0.03	8	N/A	39	Relu
CSEEM	autoMPG8	156.0	0.0321	16	N/A	35	Tanh
CSEEM	autoMPG8	198.997	0.025	16	N/A	38	SoftRelu

Table C.6: All Results of regression problems (6/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	autoMPG8	90.999	0.0335	16	N/A	36	Relu
CSEEM	autoMPG8	269.543	0.0343	32	N/A	36	Tanh
CSEEM	autoMPG8	579.453	0.0262	32	N/A	35	SoftRelu
CSEEM	autoMPG8	802.118	0.0276	32	N/A	44	Relu
RMSprop	autoMPG8	71.991	0.0232	N/A	1000	1000	Tanh
RMSprop	autoMPG8	300.548	0.0995	N/A	1000	35	Tanh
RMSprop	autoMPG8	792.001	1.6	N/A	1000	1000	SoftRelu
RMSprop	autoMPG8	378.248	0.256	N/A	1000	38	SoftRelu
RMSprop	autoMPG8	622.018	1.48	N/A	1000	1000	Relu
RMSprop	autoMPG8	383.146	0.496	N/A	1000	36	Relu
SGD	autoMPG8	458.81	0.0995	N/A	1000	1000	Tanh
SGD	autoMPG8	243.211	0.179	N/A	1000	35	Tanh
SGD	autoMPG8	21.247	0.875	N/A	1000	1000	SoftRelu
SGD	autoMPG8	303.406	7.98	N/A	1000	38	SoftRelu
SGD	autoMPG8	761.942	5.82	N/A	1000	1000	Relu
SGD	autoMPG8	334.372	2.27	N/A	1000	36	Relu
Adadelta	baseball	488.888	0.999	N/A	1000	1000	Tanh
Adadelta	baseball	315.172	0.998	N/A	1000	81	Tanh
Adadelta	baseball	567.081	0.979	N/A	1000	1000	SoftRelu
Adadelta	baseball	410.906	0.99	N/A	1000	65	SoftRelu
Adadelta	baseball	508.418	0.975	N/A	1000	1000	Relu
Adadelta	baseball	410.145	1.01	N/A	1000	68	Relu
Adagrad	baseball	443.044	0.995	N/A	1000	1000	Tanh
Adagrad	baseball	275.673	1	N/A	1000	81	Tanh
Adagrad	baseball	615.767	0.883	N/A	1000	1000	SoftRelu
Adagrad	baseball	377.954	0.995	N/A	1000	65	SoftRelu
Adagrad	baseball	459.87	0.867	N/A	1000	1000	Relu
Adagrad	baseball	409.866	0.916	N/A	1000	68	Relu

Table C.7: All Results of regression problems (7/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adam	baseball	572.121	0.497	N/A	1000	1000	Tanh
Adam	baseball	362.18	0.931	N/A	1000	81	Tanh
Adam	baseball	725.389	0.161	N/A	1000	1000	SoftRelu
Adam	baseball	446.761	0.235	N/A	1000	65	SoftRelu
Adam	baseball	544.206	0.187	N/A	1000	1000	Relu
Adam	baseball	467.954	0.24	N/A	1000	68	Relu
CSEEM	baseball	231.778	0.147	8	N/A	56	Tanh
CSEEM	baseball	228.281	0.118	8	N/A	52	SoftRelu
CSEEM	baseball	288.669	0.107	8	N/A	73	Relu
CSEEM	baseball	231.993	0.131	16	N/A	81	Tanh
CSEEM	baseball	122.998	0.112	16	N/A	65	SoftRelu
CSEEM	baseball	404.998	0.113	16	N/A	68	Relu
CSEEM	baseball	407.562	0.126	32	N/A	80	Tanh
CSEEM	baseball	555.275	0.0871	32	N/A	87	SoftRelu
CSEEM	baseball	619.289	0.0834	32	N/A	87	Relu
RMSprop	baseball	695.434	0.446	N/A	1000	1000	Tanh
RMSprop	baseball	381.941	0.93	N/A	1000	81	Tanh
RMSprop	baseball	394.0	0.178	N/A	1000	1000	SoftRelu
RMSprop	baseball	422.534	0.222	N/A	1000	65	SoftRelu
RMSprop	baseball	470.0	0.186	N/A	1000	1000	Relu
RMSprop	baseball	443.558	0.23	N/A	1000	68	Relu
SGD	baseball	372.474	0.989	N/A	1000	1000	Tanh
SGD	baseball	242.904	1	N/A	1000	81	Tanh
SGD	baseball	535.075	0.48	N/A	1000	1000	SoftRelu
SGD	baseball	405.392	0.431	N/A	1000	65	SoftRelu
SGD	baseball	397.778	0.488	N/A	1000	1000	Relu
SGD	baseball	572.507	0.523	N/A	1000	68	Relu
Adadelta	compactiv	907.757	0.955	N/A	1000	1000	Tanh

Table C.8: All Results of regression problems (8/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adadelta	compactiv	367.899	0.994	N/A	1000	304	Tanh
Adadelta	compactiv	972.013	356	N/A	1000	1000	SoftRelu
Adadelta	compactiv	794.391	1.45e+04	N/A	1000	268	SoftRelu
Adadelta	compactiv	147.601	215	N/A	1000	1000	Relu
Adadelta	compactiv	124.679	1.5e+03	N/A	1000	283	Relu
Adagrad	compactiv	810.033	0.381	N/A	1000	1000	Tanh
Adagrad	compactiv	960.424	0.75	N/A	1000	304	Tanh
Adagrad	compactiv	76.678	6.7	N/A	1000	1000	SoftRelu
Adagrad	compactiv	645.332	79.9	N/A	1000	268	SoftRelu
Adagrad	compactiv	446.011	3.03	N/A	1000	1000	Relu
Adagrad	compactiv	921.702	99.8	N/A	1000	283	Relu
Adam	compactiv	946.561	0.00849	N/A	1000	1000	Tanh
Adam	compactiv	869.529	0.011	N/A	1000	304	Tanh
Adam	compactiv	224.349	0.942	N/A	1000	1000	SoftRelu
Adam	compactiv	792.01	3.86	N/A	1000	268	SoftRelu
Adam	compactiv	455.604	0.528	N/A	1000	1000	Relu
Adam	compactiv	396.969	1.18	N/A	1000	283	Relu
CSEEM	compactiv	692.548	0.00634	8	N/A	247	Tanh
CSEEM	compactiv	956.771	0.0019	8	N/A	324	SoftRelu
CSEEM	compactiv	177.399	0.00186	8	N/A	346	Relu
CSEEM	compactiv	604.17	0.00549	16	N/A	304	Tanh
CSEEM	compactiv	505.635	0.00216	16	N/A	268	SoftRelu
CSEEM	compactiv	706.825	0.00236	16	N/A	283	Relu
CSEEM	compactiv	613.636	0.00509	32	N/A	360	Tanh
CSEEM	compactiv	322.823	0.00229	32	N/A	206	SoftRelu
CSEEM	compactiv	761.084	0.00237	32	N/A	249	Relu
RMSprop	compactiv	194.543	0.0068	N/A	1000	1000	Tanh
RMSprop	compactiv	898.361	0.0072	N/A	1000	304	Tanh

Table C.9: All Results of regression problems (9/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
RMSprop	compactiv	940.999	2.44e+04	N/A	1000	1000	SoftRelu
RMSprop	compactiv	815.55	1.75e+04	N/A	1000	268	SoftRelu
RMSprop	compactiv	901.549	2.31e+04	N/A	1000	1000	Relu
RMSprop	compactiv	456.962	1.97e+04	N/A	1000	283	Relu
SGD	compactiv	904.73	0.0183	N/A	1000	1000	Tanh
SGD	compactiv	851.731	0.237	N/A	1000	304	Tanh
SGD	compactiv	298.866	nan	N/A	1000	1000	SoftRelu
SGD	compactiv	643.101	nan	N/A	1000	268	SoftRelu
SGD	compactiv	355.591	nan	N/A	1000	1000	Relu
SGD	compactiv	941.62	nan	N/A	1000	283	Relu
Adadelta	concrete	144.58	0.777	N/A	1000	1000	Tanh
Adadelta	concrete	498.803	0.934	N/A	1000	128	Tanh
Adadelta	concrete	914.592	0.0873	N/A	1000	1000	SoftRelu
Adadelta	concrete	733.468	1.65	N/A	1000	97	SoftRelu
Adadelta	concrete	241.22	0.123	N/A	1000	1000	Relu
Adadelta	concrete	834.66	5.55	N/A	1000	108	Relu
Adagrad	concrete	202.878	0.164	N/A	1000	1000	Tanh
Adagrad	concrete	501.994	0.647	N/A	1000	128	Tanh
Adagrad	concrete	870.039	0.0494	N/A	1000	1000	SoftRelu
Adagrad	concrete	696.4	0.128	N/A	1000	97	SoftRelu
Adagrad	concrete	304.737	0.0494	N/A	1000	1000	Relu
Adagrad	concrete	747.499	0.1	N/A	1000	108	Relu
Adam	concrete	235.128	0.0391	N/A	1000	1000	Tanh
Adam	concrete	596.362	0.146	N/A	1000	128	Tanh
Adam	concrete	964.54	0.0133	N/A	1000	1000	SoftRelu
Adam	concrete	763.817	0.0228	N/A	1000	97	SoftRelu
Adam	concrete	186.438	0.0159	N/A	1000	1000	Relu
Adam	concrete	723.469	0.0275	N/A	1000	108	Relu

Table C.10: All Results of regression problems (10/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	concrete	554.716	0.0304	8	N/A	132	Tanh
CSEEM	concrete	707.098	0.0314	8	N/A	67	SoftRelu
CSEEM	concrete	500.322	0.0238	8	N/A	116	Relu
CSEEM	concrete	832.078	0.029	16	N/A	128	Tanh
CSEEM	concrete	456.999	0.0209	16	N/A	97	SoftRelu
CSEEM	concrete	577.993	0.0241	16	N/A	108	Relu
CSEEM	concrete	225.957	0.0309	32	N/A	108	Tanh
CSEEM	concrete	617.513	0.0216	32	N/A	109	SoftRelu
CSEEM	concrete	58.54	0.025	32	N/A	96	Relu
RMSprop	concrete	73.051	0.0179	N/A	1000	1000	Tanh
RMSprop	concrete	570.609	0.0531	N/A	1000	128	Tanh
RMSprop	concrete	195.002	0.103	N/A	1000	1000	SoftRelu
RMSprop	concrete	744.147	0.105	N/A	1000	97	SoftRelu
RMSprop	concrete	36.002	0.109	N/A	1000	1000	Relu
RMSprop	concrete	684.184	0.103	N/A	1000	108	Relu
SGD	concrete	193.896	0.129	N/A	1000	1000	Tanh
SGD	concrete	439.192	0.201	N/A	1000	128	Tanh
SGD	concrete	899.066	0.0838	N/A	1000	1000	SoftRelu
SGD	concrete	696.616	0.991	N/A	1000	97	SoftRelu
SGD	concrete	144.345	0.0844	N/A	1000	1000	Relu
SGD	concrete	652.687	0.985	N/A	1000	108	Relu
Adadelta	dee	468.495	0.0799	N/A	1000	1000	Tanh
Adadelta	dee	352.447	0.264	N/A	1000	22	Tanh
Adadelta	dee	610.586	7.8e+03	N/A	1000	1000	SoftRelu
Adadelta	dee	358.432	3.12e+07	N/A	1000	28	SoftRelu
Adadelta	dee	545.273	8.32e+03	N/A	1000	1000	Relu
Adadelta	dee	451.709	9.11e+08	N/A	1000	31	Relu
Adagrad	dee	489.678	0.0198	N/A	1000	1000	Tanh

Table C.11: All Results of regression problems (11/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adagrad	dee	317.977	2.04	N/A	1000	22	Tanh
Adagrad	dee	695.492	704	N/A	1000	1000	SoftRelu
Adagrad	dee	291.986	3.42e+06	N/A	1000	28	SoftRelu
Adagrad	dee	600.725	356	N/A	1000	1000	Relu
Adagrad	dee	769.143	1.65e+05	N/A	1000	31	Relu
Adam	dee	499.124	0.0107	N/A	1000	1000	Tanh
Adam	dee	292.388	0.0367	N/A	1000	22	Tanh
Adam	dee	843.989	66.7	N/A	1000	1000	SoftRelu
Adam	dee	339.967	1.02e+05	N/A	1000	28	SoftRelu
Adam	dee	648.517	91.2	N/A	1000	1000	Relu
Adam	dee	385.266	2.44e+04	N/A	1000	31	Relu
CSEEM	dee	196.53	0.0269	8	N/A	13	Tanh
CSEEM	dee	158.768	0.0238	8	N/A	23	SoftRelu
CSEEM	dee	78.129	0.0227	8	N/A	43	Relu
CSEEM	dee	100.991	0.0274	16	N/A	22	Tanh
CSEEM	dee	159.999	0.0233	16	N/A	28	SoftRelu
CSEEM	dee	94.999	0.0243	16	N/A	31	Relu
CSEEM	dee	216.157	0.028	32	N/A	24	Tanh
CSEEM	dee	369.808	0.024	32	N/A	25	SoftRelu
CSEEM	dee	505.829	0.0251	32	N/A	19	Relu
RMSprop	dee	448.3	0.0298	N/A	1000	1000	Tanh
RMSprop	dee	382.258	0.0414	N/A	1000	22	Tanh
RMSprop	dee	563.007	4.07e+05	N/A	1000	1000	SoftRelu
RMSprop	dee	345.36	4.74e+04	N/A	1000	28	SoftRelu
RMSprop	dee	474.083	3.39e+05	N/A	1000	1000	Relu
RMSprop	dee	446.423	1.76e+05	N/A	1000	31	Relu
SGD	dee	416.812	0.013	N/A	1000	1000	Tanh
SGD	dee	281.269	0.0453	N/A	1000	22	Tanh

Table C.12: All Results of regression problems (12/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
SGD	dee	653.597	nan	N/A	1000	1000	SoftRelu
SGD	dee	276.052	nan	N/A	1000	28	SoftRelu
SGD	dee	620.058	6.27e+27	N/A	1000	1000	Relu
SGD	dee	339.691	6.11e+30	N/A	1000	31	Relu
Adadelta	delta_ail	424.029	2.11	N/A	1000	1000	Tanh
Adadelta	delta_ail	659.343	59.8	N/A	1000	239	Tanh
Adadelta	delta_ail	773.874	2.14	N/A	1000	1000	SoftRelu
Adadelta	delta_ail	942.476	3.01e+06	N/A	1000	178	SoftRelu
Adadelta	delta_ail	327.041	0.537	N/A	1000	1000	Relu
Adadelta	delta_ail	544.447	1.76	N/A	1000	172	Relu
Adagrad	delta_ail	381.437	0.338	N/A	1000	1000	Tanh
Adagrad	delta_ail	588.757	0.363	N/A	1000	239	Tanh
Adagrad	delta_ail	957.066	0.437	N/A	1000	1000	SoftRelu
Adagrad	delta_ail	881.249	25.1	N/A	1000	178	SoftRelu
Adagrad	delta_ail	459.02	0.344	N/A	1000	1000	Relu
Adagrad	delta_ail	570.112	0.415	N/A	1000	172	Relu
Adam	delta_ail	426.88	0.322	N/A	1000	1000	Tanh
Adam	delta_ail	697.849	0.322	N/A	1000	239	Tanh
Adam	delta_ail	569.827	0.373	N/A	1000	1000	SoftRelu
Adam	delta_ail	936.523	1.1	N/A	1000	178	SoftRelu
Adam	delta_ail	350.27	0.375	N/A	1000	1000	Relu
Adam	delta_ail	921.749	0.301	N/A	1000	172	Relu
CSEEM	delta_ail	960.069	0.00568	8	N/A	223	Tanh
CSEEM	delta_ail	513.778	0.00573	8	N/A	113	SoftRelu
CSEEM	delta_ail	386.403	0.00563	8	N/A	199	Relu
CSEEM	delta_ail	453.393	0.00571	16	N/A	239	Tanh
CSEEM	delta_ail	952.113	0.00554	16	N/A	178	SoftRelu
CSEEM	delta_ail	297.154	0.00568	16	N/A	172	Relu

Table C.13: All Results of regression problems (13/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	delta_ail	975.324	0.00567	32	N/A	241	Tanh
CSEEM	delta_ail	702.658	0.00548	32	N/A	202	SoftRelu
CSEEM	delta_ail	581.887	0.00552	32	N/A	224	Relu
RMSprop	delta_ail	82.153	3.81	N/A	1000	1000	Tanh
RMSprop	delta_ail	727.09	5.91	N/A	1000	239	Tanh
RMSprop	delta_ail	205.002	6.89e+05	N/A	1000	1000	SoftRelu
RMSprop	delta_ail	848.471	2.56e+04	N/A	1000	178	SoftRelu
RMSprop	delta_ail	171.0	3.5	N/A	1000	1000	Relu
RMSprop	delta_ail	926.095	3.47	N/A	1000	172	Relu
SGD	delta_ail	237.535	nan	N/A	1000	1000	Tanh
SGD	delta_ail	660.347	nan	N/A	1000	239	Tanh
SGD	delta_ail	745.925	nan	N/A	1000	1000	SoftRelu
SGD	delta_ail	800.387	nan	N/A	1000	178	SoftRelu
SGD	delta_ail	508.577	nan	N/A	1000	1000	Relu
SGD	delta_ail	632.319	nan	N/A	1000	172	Relu
Adadelta	delta_elv	980.564	163	N/A	1000	1000	Tanh
Adadelta	delta_elv	345.387	2.16e+04	N/A	1000	354	Tanh
Adadelta	delta_elv	356.323	638	N/A	1000	1000	SoftRelu
Adadelta	delta_elv	782.109	6.32e+04	N/A	1000	288	SoftRelu
Adadelta	delta_elv	97.058	1.61e+03	N/A	1000	1000	Relu
Adadelta	delta_elv	907.349	4.15e+04	N/A	1000	287	Relu
Adagrad	delta_elv	27.808	0.634	N/A	1000	1000	Tanh
Adagrad	delta_elv	342.771	55.3	N/A	1000	354	Tanh
Adagrad	delta_elv	61.44	1.08	N/A	1000	1000	SoftRelu
Adagrad	delta_elv	812.38	13.5	N/A	1000	288	SoftRelu
Adagrad	delta_elv	103.652	0.969	N/A	1000	1000	Relu
Adagrad	delta_elv	934.8	12.7	N/A	1000	287	Relu
Adam	delta_elv	973.162	0.484	N/A	1000	1000	Tanh

Table C.14: All Results of regression problems (14/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adam	delta_elv	410.281	1.19	N/A	1000	354	Tanh
Adam	delta_elv	300.271	0.598	N/A	1000	1000	SoftRelu
Adam	delta_elv	975.385	1.03	N/A	1000	288	SoftRelu
Adam	delta_elv	903.649	0.491	N/A	1000	1000	Relu
Adam	delta_elv	78.295	1.75	N/A	1000	287	Relu
CSEEM	delta_elv	6.653	0.00965	8	N/A	340	Tanh
CSEEM	delta_elv	351.766	0.00972	8	N/A	346	SoftRelu
CSEEM	delta_elv	922.565	0.00972	8	N/A	310	Relu
CSEEM	delta_elv	447.296	0.00961	16	N/A	354	Tanh
CSEEM	delta_elv	817.189	0.00964	16	N/A	288	SoftRelu
CSEEM	delta_elv	509.962	0.0097	16	N/A	287	Relu
CSEEM	delta_elv	222.361	0.00964	32	N/A	329	Tanh
CSEEM	delta_elv	27.59	0.00956	32	N/A	341	SoftRelu
CSEEM	delta_elv	279.321	0.00962	32	N/A	348	Relu
RMSprop	delta_elv	59.09	1.72e+04	N/A	1000	1000	Tanh
RMSprop	delta_elv	890.729	4.34e+03	N/A	1000	354	Tanh
RMSprop	delta_elv	13.0	4.57e+04	N/A	1000	1000	SoftRelu
RMSprop	delta_elv	46.046	1.45e+04	N/A	1000	288	SoftRelu
RMSprop	delta_elv	751.073	1.35e+04	N/A	1000	1000	Relu
RMSprop	delta_elv	383.494	1.06e+04	N/A	1000	287	Relu
SGD	delta_elv	2.123	nan	N/A	1000	1000	Tanh
SGD	delta_elv	245.302	nan	N/A	1000	354	Tanh
SGD	delta_elv	900.209	nan	N/A	1000	1000	SoftRelu
SGD	delta_elv	845.529	nan	N/A	1000	288	SoftRelu
SGD	delta_elv	183.227	nan	N/A	1000	1000	Relu
SGD	delta_elv	36.61	nan	N/A	1000	287	Relu
Adadelta	diabetes	439.093	0.565	N/A	1000	1000	Tanh
Adadelta	diabetes	183.249	1.42	N/A	1000	6	Tanh

Table C.15: All Results of regression problems (15/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adadelta	diabetes	528.429	0.475	N/A	1000	1000	SoftRelu
Adadelta	diabetes	263.794	0.141	N/A	1000	5	SoftRelu
Adadelta	diabetes	352.925	0.933	N/A	1000	1000	Relu
Adadelta	diabetes	320.351	3.92	N/A	1000	4	Relu
Adagrad	diabetes	401.786	0.032	N/A	1000	1000	Tanh
Adagrad	diabetes	153.863	0.619	N/A	1000	6	Tanh
Adagrad	diabetes	504.859	0.0154	N/A	1000	1000	SoftRelu
Adagrad	diabetes	240.904	0.566	N/A	1000	5	SoftRelu
Adagrad	diabetes	335.305	0.0879	N/A	1000	1000	Relu
Adagrad	diabetes	263.584	0.537	N/A	1000	4	Relu
Adam	diabetes	405.703	0.00992	N/A	1000	1000	Tanh
Adam	diabetes	193.517	0.0158	N/A	1000	6	Tanh
Adam	diabetes	567.142	0.0107	N/A	1000	1000	SoftRelu
Adam	diabetes	277.897	0.071	N/A	1000	5	SoftRelu
Adam	diabetes	392.236	0.00837	N/A	1000	1000	Relu
Adam	diabetes	346.009	0.0704	N/A	1000	4	Relu
CSEEM	diabetes	0.0	0.0711	8	N/A	6	Tanh
CSEEM	diabetes	0.0	0.0684	8	N/A	5	SoftRelu
CSEEM	diabetes	0.0	0.0698	8	N/A	6	Relu
CSEEM	diabetes	13.002	0.0653	16	N/A	6	Tanh
CSEEM	diabetes	15.021	0.0698	16	N/A	5	SoftRelu
CSEEM	diabetes	7.995	0.078	16	N/A	4	Relu
CSEEM	diabetes	31.26	0.0677	32	N/A	4	Tanh
CSEEM	diabetes	15.636	0.0685	32	N/A	4	SoftRelu
CSEEM	diabetes	42.771	0.0742	32	N/A	3	Relu
RMSprop	diabetes	422.958	0.0128	N/A	1000	1000	Tanh
RMSprop	diabetes	220.128	0.0103	N/A	1000	6	Tanh
RMSprop	diabetes	564.987	0.0143	N/A	1000	1000	SoftRelu

Table C.16: All Results of regression problems (16/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
RMSprop	diabetes	303.733	0.013	N/A	1000	5	SoftRelu
RMSprop	diabetes	571.997	0.0146	N/A	1000	1000	Relu
RMSprop	diabetes	328.771	0.557	N/A	1000	4	Relu
SGD	diabetes	299.273	0.0156	N/A	1000	1000	Tanh
SGD	diabetes	150.197	0.0146	N/A	1000	6	Tanh
SGD	diabetes	492.662	0.0136	N/A	1000	1000	SoftRelu
SGD	diabetes	228.086	0.0821	N/A	1000	5	SoftRelu
SGD	diabetes	304.848	0.0706	N/A	1000	1000	Relu
SGD	diabetes	246.089	0.0718	N/A	1000	4	Relu
Adadelta	ele-1	939.693	0.999	N/A	1000	1000	Tanh
Adadelta	ele-1	287.837	0.999	N/A	1000	51	Tanh
Adadelta	ele-1	592.55	1.01	N/A	1000	1000	SoftRelu
Adadelta	ele-1	483.125	1.01	N/A	1000	65	SoftRelu
Adadelta	ele-1	83.823	0.997	N/A	1000	1000	Relu
Adadelta	ele-1	423.924	1.03	N/A	1000	71	Relu
Adagrad	ele-1	904.679	0.998	N/A	1000	1000	Tanh
Adagrad	ele-1	246.79	0.999	N/A	1000	51	Tanh
Adagrad	ele-1	536.034	0.367	N/A	1000	1000	SoftRelu
Adagrad	ele-1	444.651	0.834	N/A	1000	65	SoftRelu
Adagrad	ele-1	72.869	0.316	N/A	1000	1000	Relu
Adagrad	ele-1	396.967	0.716	N/A	1000	71	Relu
Adam	ele-1	990.965	0.471	N/A	1000	1000	Tanh
Adam	ele-1	293.802	0.958	N/A	1000	51	Tanh
Adam	ele-1	498.209	0.0847	N/A	1000	1000	SoftRelu
Adam	ele-1	484.599	0.0943	N/A	1000	65	SoftRelu
Adam	ele-1	143.624	0.0959	N/A	1000	1000	Relu
Adam	ele-1	453.383	0.104	N/A	1000	71	Relu
CSEEM	ele-1	81.637	0.0656	8	N/A	50	Tanh

Table C.17: All Results of regression problems (17/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	ele-1	147.138	0.0625	8	N/A	61	SoftRelu
CSEEM	ele-1	31.252	0.0678	8	N/A	57	Relu
CSEEM	ele-1	209.992	0.0656	16	N/A	51	Tanh
CSEEM	ele-1	280.992	0.0613	16	N/A	65	SoftRelu
CSEEM	ele-1	504.988	0.061	16	N/A	71	Relu
CSEEM	ele-1	617.211	0.0618	32	N/A	58	Tanh
CSEEM	ele-1	432.307	0.0654	32	N/A	48	SoftRelu
CSEEM	ele-1	554.566	0.0628	32	N/A	62	Relu
RMSprop	ele-1	660.001	0.416	N/A	1000	1000	Tanh
RMSprop	ele-1	298.159	0.957	N/A	1000	51	Tanh
RMSprop	ele-1	268.256	0.0865	N/A	1000	1000	SoftRelu
RMSprop	ele-1	491.015	0.0906	N/A	1000	65	SoftRelu
RMSprop	ele-1	27.913	0.0888	N/A	1000	1000	Relu
RMSprop	ele-1	440.118	0.0933	N/A	1000	71	Relu
SGD	ele-1	917.573	0.99	N/A	1000	1000	Tanh
SGD	ele-1	235.05	0.999	N/A	1000	51	Tanh
SGD	ele-1	498.767	0.119	N/A	1000	1000	SoftRelu
SGD	ele-1	439.043	0.119	N/A	1000	65	SoftRelu
SGD	ele-1	49.196	0.118	N/A	1000	1000	Relu
SGD	ele-1	433.139	0.115	N/A	1000	71	Relu
Adadelta	ele-2	271.524	1	N/A	1000	1000	Tanh
Adadelta	ele-2	292.047	1	N/A	1000	16	Tanh
Adadelta	ele-2	215.25	0.997	N/A	1000	1000	SoftRelu
Adadelta	ele-2	459.647	0.999	N/A	1000	23	SoftRelu
Adadelta	ele-2	389.743	0.996	N/A	1000	1000	Relu
Adadelta	ele-2	522.692	0.997	N/A	1000	42	Relu
Adagrad	ele-2	246.392	0.999	N/A	1000	1000	Tanh
Adagrad	ele-2	269.355	1	N/A	1000	16	Tanh

Table C.18: All Results of regression problems (18/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adagrad	ele-2	243.739	0.991	N/A	1000	1000	SoftRelu
Adagrad	ele-2	444.471	0.997	N/A	1000	23	SoftRelu
Adagrad	ele-2	324.108	0.987	N/A	1000	1000	Relu
Adagrad	ele-2	477.427	0.985	N/A	1000	42	Relu
Adam	ele-2	299.955	0.604	N/A	1000	1000	Tanh
Adam	ele-2	294.581	0.989	N/A	1000	16	Tanh
Adam	ele-2	284.762	0.00446	N/A	1000	1000	SoftRelu
Adam	ele-2	491.442	0.0549	N/A	1000	23	SoftRelu
Adam	ele-2	339.076	0.00447	N/A	1000	1000	Relu
Adam	ele-2	518.896	0.0211	N/A	1000	42	Relu
CSEEM	ele-2	502.605	0.00301	8	N/A	59	Tanh
CSEEM	ele-2	208.043	0.00206	8	N/A	27	SoftRelu
CSEEM	ele-2	933.636	0.0048	8	N/A	16	Relu
CSEEM	ele-2	971.993	0.0053	16	N/A	16	Tanh
CSEEM	ele-2	247.0	0.00221	16	N/A	23	SoftRelu
CSEEM	ele-2	533.993	0.00199	16	N/A	42	Relu
CSEEM	ele-2	42.453	0.00311	32	N/A	61	Tanh
CSEEM	ele-2	286.549	0.00202	32	N/A	20	SoftRelu
CSEEM	ele-2	874.619	0.00179	32	N/A	38	Relu
RMSprop	ele-2	127.519	0.575	N/A	1000	1000	Tanh
RMSprop	ele-2	301.362	0.989	N/A	1000	16	Tanh
RMSprop	ele-2	446.062	0.00421	N/A	1000	1000	SoftRelu
RMSprop	ele-2	489.118	0.284	N/A	1000	23	SoftRelu
RMSprop	ele-2	495.46	0.00409	N/A	1000	1000	Relu
RMSprop	ele-2	548.427	0.0154	N/A	1000	42	Relu
SGD	ele-2	281.914	0.997	N/A	1000	1000	Tanh
SGD	ele-2	228.47	1	N/A	1000	16	Tanh
SGD	ele-2	182.376	0.965	N/A	1000	1000	SoftRelu

Table C.19: All Results of regression problems (19/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
SGD	ele-2	437.407	0.95	N/A	1000	23	SoftRelu
SGD	ele-2	291.231	0.966	N/A	1000	1000	Relu
SGD	ele-2	458.739	0.969	N/A	1000	42	Relu
Adadelta	forestFires	96.75	0.985	N/A	1000	1000	Tanh
Adadelta	forestFires	447.982	0.986	N/A	1000	238	Tanh
Adadelta	forestFires	686.592	0.96	N/A	1000	1000	SoftRelu
Adadelta	forestFires	103.018	0.956	N/A	1000	307	SoftRelu
Adadelta	forestFires	327.751	0.956	N/A	1000	1000	Relu
Adadelta	forestFires	700.422	0.968	N/A	1000	283	Relu
Adagrad	forestFires	72.739	0.958	N/A	1000	1000	Tanh
Adagrad	forestFires	413.496	0.975	N/A	1000	238	Tanh
Adagrad	forestFires	564.158	0.95	N/A	1000	1000	SoftRelu
Adagrad	forestFires	80.462	0.949	N/A	1000	307	SoftRelu
Adagrad	forestFires	381.049	0.951	N/A	1000	1000	Relu
Adagrad	forestFires	670.159	0.953	N/A	1000	283	Relu
Adam	forestFires	146.89	0.621	N/A	1000	1000	Tanh
Adam	forestFires	477.596	0.862	N/A	1000	238	Tanh
Adam	forestFires	673.251	0.717	N/A	1000	1000	SoftRelu
Adam	forestFires	131.228	0.758	N/A	1000	307	SoftRelu
Adam	forestFires	504.732	0.789	N/A	1000	1000	Relu
Adam	forestFires	742.554	0.839	N/A	1000	283	Relu
CSEEM	forestFires	437.177	0.46	8	N/A	283	Tanh
CSEEM	forestFires	548.188	0.509	8	N/A	260	SoftRelu
CSEEM	forestFires	417.389	0.552	8	N/A	240	Relu
CSEEM	forestFires	977.998	0.468	16	N/A	238	Tanh
CSEEM	forestFires	904.15	0.432	16	N/A	307	SoftRelu
CSEEM	forestFires	515.993	0.465	16	N/A	283	Relu
CSEEM	forestFires	817.481	0.516	32	N/A	259	Tanh

Table C.20: All Results of regression problems (20/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	forestFires	795.832	0.485	32	N/A	292	SoftRelu
CSEEM	forestFires	239.29	0.481	32	N/A	267	Relu
RMSprop	forestFires	863.075	0.867	N/A	1000	1000	Tanh
RMSprop	forestFires	506.898	0.902	N/A	1000	238	Tanh
RMSprop	forestFires	500.986	0.926	N/A	1000	1000	SoftRelu
RMSprop	forestFires	227.296	0.93	N/A	1000	307	SoftRelu
RMSprop	forestFires	247.001	0.925	N/A	1000	1000	Relu
RMSprop	forestFires	755.492	0.933	N/A	1000	283	Relu
SGD	forestFires	304.208	0.953	N/A	1000	1000	Tanh
SGD	forestFires	391.875	0.963	N/A	1000	238	Tanh
SGD	forestFires	633.612	0.949	N/A	1000	1000	SoftRelu
SGD	forestFires	112.015	0.951	N/A	1000	307	SoftRelu
SGD	forestFires	410.785	0.951	N/A	1000	1000	Relu
SGD	forestFires	620.352	0.953	N/A	1000	283	Relu
Adadelta	friedman	629.831	0.963	N/A	1000	1000	Tanh
Adadelta	friedman	416.55	0.965	N/A	1000	88	Tanh
Adadelta	friedman	534.004	0.894	N/A	1000	1000	SoftRelu
Adadelta	friedman	670.04	1.02	N/A	1000	57	SoftRelu
Adadelta	friedman	938.906	0.981	N/A	1000	1000	Relu
Adadelta	friedman	543.583	0.945	N/A	1000	43	Relu
Adagrad	friedman	552.468	0.668	N/A	1000	1000	Tanh
Adagrad	friedman	388.216	0.773	N/A	1000	88	Tanh
Adagrad	friedman	480.245	0.112	N/A	1000	1000	SoftRelu
Adagrad	friedman	645.943	0.69	N/A	1000	57	SoftRelu
Adagrad	friedman	831.787	0.834	N/A	1000	1000	Relu
Adagrad	friedman	554.841	0.894	N/A	1000	43	Relu
Adam	friedman	585.692	0.0301	N/A	1000	1000	Tanh
Adam	friedman	437.075	0.0345	N/A	1000	88	Tanh

Table C.21: All Results of regression problems (21/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adam	friedman	571.693	0.0306	N/A	1000	1000	SoftRelu
Adam	friedman	697.18	0.0463	N/A	1000	57	SoftRelu
Adam	friedman	6.496	0.0139	N/A	1000	1000	Relu
Adam	friedman	600.207	0.0306	N/A	1000	43	Relu
CSEEM	friedman	1.079	0.0106	8	N/A	97	Tanh
CSEEM	friedman	827.581	0.00768	8	N/A	58	SoftRelu
CSEEM	friedman	664.092	0.0087	8	N/A	60	Relu
CSEEM	friedman	338.0	0.00975	16	N/A	88	Tanh
CSEEM	friedman	675.001	0.00902	16	N/A	57	SoftRelu
CSEEM	friedman	383.0	0.0102	16	N/A	43	Relu
CSEEM	friedman	981.206	0.0152	32	N/A	66	Tanh
CSEEM	friedman	4.125	0.00766	32	N/A	61	SoftRelu
CSEEM	friedman	259.218	0.00848	32	N/A	68	Relu
RMSprop	friedman	581.002	0.0303	N/A	1000	1000	Tanh
RMSprop	friedman	442.235	0.0268	N/A	1000	88	Tanh
RMSprop	friedman	486.306	0.0307	N/A	1000	1000	SoftRelu
RMSprop	friedman	698.304	0.0296	N/A	1000	57	SoftRelu
RMSprop	friedman	676.135	0.0126	N/A	1000	1000	Relu
RMSprop	friedman	570.272	0.03	N/A	1000	43	Relu
SGD	friedman	556.561	0.0945	N/A	1000	1000	Tanh
SGD	friedman	367.327	0.142	N/A	1000	88	Tanh
SGD	friedman	491.9	0.11	N/A	1000	1000	SoftRelu
SGD	friedman	650.806	0.0951	N/A	1000	57	SoftRelu
SGD	friedman	820.297	0.168	N/A	1000	1000	Relu
SGD	friedman	487.743	0.148	N/A	1000	43	Relu
Adadelta	laser	125.498	0.96	N/A	1000	1000	Tanh
Adadelta	laser	354.269	1.01	N/A	1000	61	Tanh
Adadelta	laser	483.052	0.722	N/A	1000	1000	SoftRelu

Table C.22: All Results of regression problems (22/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adadelta	laser	481.831	1.09	N/A	1000	37	SoftRelu
Adadelta	laser	196.527	0.849	N/A	1000	1000	Relu
Adadelta	laser	546.712	0.967	N/A	1000	68	Relu
Adagrad	laser	940.676	0.417	N/A	1000	1000	Tanh
Adagrad	laser	334.915	0.911	N/A	1000	61	Tanh
Adagrad	laser	475.875	0.117	N/A	1000	1000	SoftRelu
Adagrad	laser	483.187	0.248	N/A	1000	37	SoftRelu
Adagrad	laser	75.43	0.116	N/A	1000	1000	Relu
Adagrad	laser	534.586	0.324	N/A	1000	68	Relu
Adam	laser	32.503	0.00399	N/A	1000	1000	Tanh
Adam	laser	370.848	0.279	N/A	1000	61	Tanh
Adam	laser	643.204	0.00317	N/A	1000	1000	SoftRelu
Adam	laser	492.444	0.0201	N/A	1000	37	SoftRelu
Adam	laser	72.033	0.00351	N/A	1000	1000	Relu
Adam	laser	563.951	0.0253	N/A	1000	68	Relu
CSEEM	laser	332.043	0.00525	8	N/A	68	Tanh
CSEEM	laser	114.394	0.00431	8	N/A	46	SoftRelu
CSEEM	laser	200.53	0.00696	8	N/A	44	Relu
CSEEM	laser	804.999	0.00478	16	N/A	61	Tanh
CSEEM	laser	763.001	0.0049	16	N/A	37	SoftRelu
CSEEM	laser	48.999	0.00575	16	N/A	68	Relu
CSEEM	laser	619.271	0.00714	32	N/A	52	Tanh
CSEEM	laser	541.31	0.00417	32	N/A	42	SoftRelu
CSEEM	laser	36.556	0.00471	32	N/A	53	Relu
RMSprop	laser	55.0	0.005	N/A	1000	1000	Tanh
RMSprop	laser	384.484	0.218	N/A	1000	61	Tanh
RMSprop	laser	736.21	0.0135	N/A	1000	1000	SoftRelu
RMSprop	laser	519.626	0.0216	N/A	1000	37	SoftRelu

Table C.23: All Results of regression problems (23/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
RMSprop	laser	990.539	0.013	N/A	1000	1000	Relu
RMSprop	laser	570.383	0.0115	N/A	1000	68	Relu
SGD	laser	12.438	0.167	N/A	1000	1000	Tanh
SGD	laser	331.698	0.776	N/A	1000	61	Tanh
SGD	laser	487.488	0.0845	N/A	1000	1000	SoftRelu
SGD	laser	455.047	0.0884	N/A	1000	37	SoftRelu
SGD	laser	97.3	0.0808	N/A	1000	1000	Relu
SGD	laser	512.537	0.08	N/A	1000	68	Relu
Adadelta	machineCPU	557.816	0.996	N/A	1000	1000	Tanh
Adadelta	machineCPU	244.497	1.01	N/A	1000	35	Tanh
Adadelta	machineCPU	99.42	0.156	N/A	1000	1000	SoftRelu
Adadelta	machineCPU	294.568	27.4	N/A	1000	29	SoftRelu
Adadelta	machineCPU	821.031	0.158	N/A	1000	1000	Relu
Adadelta	machineCPU	377.543	0.513	N/A	1000	21	Relu
Adagrad	machineCPU	601.659	0.911	N/A	1000	1000	Tanh
Adagrad	machineCPU	190.486	0.993	N/A	1000	35	Tanh
Adagrad	machineCPU	63.853	0.107	N/A	1000	1000	SoftRelu
Adagrad	machineCPU	273.649	0.43	N/A	1000	29	SoftRelu
Adagrad	machineCPU	803.313	0.103	N/A	1000	1000	Relu
Adagrad	machineCPU	317.104	16.3	N/A	1000	21	Relu
Adam	machineCPU	595.447	0.467	N/A	1000	1000	Tanh
Adam	machineCPU	240.933	0.839	N/A	1000	35	Tanh
Adam	machineCPU	126.071	0.0206	N/A	1000	1000	SoftRelu
Adam	machineCPU	325.101	0.101	N/A	1000	29	SoftRelu
Adam	machineCPU	866.083	0.0268	N/A	1000	1000	Relu
Adam	machineCPU	386.834	0.0881	N/A	1000	21	Relu
CSEEM	machineCPU	77.523	0.048	8	N/A	45	Tanh
CSEEM	machineCPU	31.256	0.0318	8	N/A	26	SoftRelu

Table C.24: All Results of regression problems (24/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	machineCPU	37.765	0.0356	8	N/A	25	Relu
CSEEM	machineCPU	112.0	0.0622	16	N/A	35	Tanh
CSEEM	machineCPU	64.0	0.0311	16	N/A	29	SoftRelu
CSEEM	machineCPU	65.99	0.0327	16	N/A	21	Relu
CSEEM	machineCPU	162.76	0.0713	32	N/A	41	Tanh
CSEEM	machineCPU	79.639	0.0318	32	N/A	25	SoftRelu
CSEEM	machineCPU	46.874	0.0307	32	N/A	25	Relu
RMSprop	machineCPU	692.984	0.573	N/A	1000	1000	Tanh
RMSprop	machineCPU	259.797	0.831	N/A	1000	35	Tanh
RMSprop	machineCPU	200.31	0.858	N/A	1000	1000	SoftRelu
RMSprop	machineCPU	319.207	0.183	N/A	1000	29	SoftRelu
RMSprop	machineCPU	851.675	0.886	N/A	1000	1000	Relu
RMSprop	machineCPU	339.983	0.147	N/A	1000	21	Relu
SGD	machineCPU	512.623	0.802	N/A	1000	1000	Tanh
SGD	machineCPU	179.677	0.99	N/A	1000	35	Tanh
SGD	machineCPU	54.538	1	N/A	1000	1000	SoftRelu
SGD	machineCPU	266.691	0.999	N/A	1000	29	SoftRelu
SGD	machineCPU	632.027	1	N/A	1000	1000	Relu
SGD	machineCPU	276.822	0.999	N/A	1000	21	Relu
Adadelta	mortgage	269.322	0.287	N/A	1000	1000	Tanh
Adadelta	mortgage	453.351	0.901	N/A	1000	108	Tanh
Adadelta	mortgage	214.234	0.128	N/A	1000	1000	SoftRelu
Adadelta	mortgage	570.224	143	N/A	1000	46	SoftRelu
Adadelta	mortgage	548.688	0.0971	N/A	1000	1000	Relu
Adadelta	mortgage	669.399	1.52e+04	N/A	1000	60	Relu
Adagrad	mortgage	275.585	0.032	N/A	1000	1000	Tanh
Adagrad	mortgage	597.637	0.269	N/A	1000	108	Tanh
Adagrad	mortgage	230.256	0.0204	N/A	1000	1000	SoftRelu

Table C.25: All Results of regression problems (25/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adagrad	mortgage	548.51	67.4	N/A	1000	46	SoftRelu
Adagrad	mortgage	573.59	0.0181	N/A	1000	1000	Relu
Adagrad	mortgage	615.562	16.8	N/A	1000	60	Relu
Adam	mortgage	324.567	0.0064	N/A	1000	1000	Tanh
Adam	mortgage	643.082	0.143	N/A	1000	108	Tanh
Adam	mortgage	207.231	0.0314	N/A	1000	1000	SoftRelu
Adam	mortgage	592.401	0.369	N/A	1000	46	SoftRelu
Adam	mortgage	674.998	0.00577	N/A	1000	1000	Relu
Adam	mortgage	721.049	0.12	N/A	1000	60	Relu
CSEEM	mortgage	654.988	0.0124	8	N/A	76	Tanh
CSEEM	mortgage	385.439	0.0045	8	N/A	57	SoftRelu
CSEEM	mortgage	200.537	0.00327	8	N/A	85	Relu
CSEEM	mortgage	41.0	0.00821	16	N/A	108	Tanh
CSEEM	mortgage	565.002	0.00698	16	N/A	46	SoftRelu
CSEEM	mortgage	564.993	0.00525	16	N/A	60	Relu
CSEEM	mortgage	621.556	0.0123	32	N/A	83	Tanh
CSEEM	mortgage	292.156	0.00544	32	N/A	64	SoftRelu
CSEEM	mortgage	644.662	0.00407	32	N/A	62	Relu
RMSprop	mortgage	204.351	0.0392	N/A	1000	1000	Tanh
RMSprop	mortgage	460.909	0.028	N/A	1000	108	Tanh
RMSprop	mortgage	426.001	10.5	N/A	1000	1000	SoftRelu
RMSprop	mortgage	627.163	8.25	N/A	1000	46	SoftRelu
RMSprop	mortgage	413.526	10.5	N/A	1000	1000	Relu
RMSprop	mortgage	596.679	19.7	N/A	1000	60	Relu
SGD	mortgage	109.322	0.0857	N/A	1000	1000	Tanh
SGD	mortgage	412.113	0.121	N/A	1000	108	Tanh
SGD	mortgage	234.369	nan	N/A	1000	1000	SoftRelu
SGD	mortgage	541.382	nan	N/A	1000	46	SoftRelu

Table C.26: All Results of regression problems (26/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
SGD	mortgage	542.111	1.23e+17	N/A	1000	1000	Relu
SGD	mortgage	822.228	1.07e+09	N/A	1000	60	Relu
Adadelta	plastic	62.52	0.518	N/A	1000	1000	Tanh
Adadelta	plastic	366.974	1.23	N/A	1000	40	Tanh
Adadelta	plastic	884.943	0.0946	N/A	1000	1000	SoftRelu
Adadelta	plastic	716.124	0.0538	N/A	1000	51	SoftRelu
Adadelta	plastic	47.917	0.0646	N/A	1000	1000	Relu
Adadelta	plastic	652.172	13.5	N/A	1000	52	Relu
Adagrad	plastic	942.068	0.0357	N/A	1000	1000	Tanh
Adagrad	plastic	342.732	0.839	N/A	1000	40	Tanh
Adagrad	plastic	910.874	0.0223	N/A	1000	1000	SoftRelu
Adagrad	plastic	695.843	0.0273	N/A	1000	51	SoftRelu
Adagrad	plastic	43.568	0.0345	N/A	1000	1000	Relu
Adagrad	plastic	625.602	0.0541	N/A	1000	52	Relu
Adam	plastic	959.979	0.0102	N/A	1000	1000	Tanh
Adam	plastic	384.567	0.0376	N/A	1000	40	Tanh
Adam	plastic	11.599	0.00968	N/A	1000	1000	SoftRelu
Adam	plastic	717.769	0.00989	N/A	1000	51	SoftRelu
Adam	plastic	161.855	0.00978	N/A	1000	1000	Relu
Adam	plastic	652.972	0.0322	N/A	1000	52	Relu
CSEEM	plastic	182.907	0.0578	8	N/A	51	Tanh
CSEEM	plastic	536.806	0.0578	8	N/A	54	SoftRelu
CSEEM	plastic	200.536	0.0579	8	N/A	29	Relu
CSEEM	plastic	459.992	0.0578	16	N/A	40	Tanh
CSEEM	plastic	688.999	0.0578	16	N/A	51	SoftRelu
CSEEM	plastic	571.007	0.0578	16	N/A	52	Relu
CSEEM	plastic	970.745	0.0578	32	N/A	43	Tanh
CSEEM	plastic	155.273	0.0578	32	N/A	48	SoftRelu

Table C.27: All Results of regression problems (27/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	plastic	857.008	0.0577	32	N/A	82	Relu
RMSprop	plastic	683.623	0.022	N/A	1000	1000	Tanh
RMSprop	plastic	387.363	0.0327	N/A	1000	40	Tanh
RMSprop	plastic	778.535	0.0452	N/A	1000	1000	SoftRelu
RMSprop	plastic	724.225	0.0154	N/A	1000	51	SoftRelu
RMSprop	plastic	403.006	0.0419	N/A	1000	1000	Relu
RMSprop	plastic	704.611	0.0135	N/A	1000	52	Relu
SGD	plastic	916.114	0.0271	N/A	1000	1000	Tanh
SGD	plastic	346.235	0.0449	N/A	1000	40	Tanh
SGD	plastic	573.086	0.0284	N/A	1000	1000	SoftRelu
SGD	plastic	720.811	0.0625	N/A	1000	51	SoftRelu
SGD	plastic	50.759	0.0631	N/A	1000	1000	Relu
SGD	plastic	612.391	0.855	N/A	1000	52	Relu
Adadelta	puma32h	185.441	237	N/A	1000	1000	Tanh
Adadelta	puma32h	860.175	358	N/A	1000	1089	Tanh
Adadelta	puma32h	352.293	961	N/A	1000	1000	SoftRelu
Adadelta	puma32h	771.284	104	N/A	1000	1308	SoftRelu
Adadelta	puma32h	70.412	407	N/A	1000	1000	Relu
Adadelta	puma32h	444.939	607	N/A	1000	1310	Relu
Adagrad	puma32h	31.63	4.12	N/A	1000	1000	Tanh
Adagrad	puma32h	668.944	4.6	N/A	1000	1089	Tanh
Adagrad	puma32h	792.782	15.1	N/A	1000	1000	SoftRelu
Adagrad	puma32h	992.182	8.64	N/A	1000	1308	SoftRelu
Adagrad	puma32h	201.041	22.1	N/A	1000	1000	Relu
Adagrad	puma32h	490.276	14.6	N/A	1000	1310	Relu
Adam	puma32h	165.137	0.0356	N/A	1000	1000	Tanh
Adam	puma32h	860.1	0.0543	N/A	1000	1089	Tanh
Adam	puma32h	863.278	1.89	N/A	1000	1000	SoftRelu

Table C.28: All Results of regression problems (28/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adam	puma32h	685.677	1.94	N/A	1000	1308	SoftRelu
Adam	puma32h	226.344	2.27	N/A	1000	1000	Relu
Adam	puma32h	833.567	1.21	N/A	1000	1310	Relu
CSEEM	puma32h	661.805	0.0702	8	N/A	1023	Tanh
CSEEM	puma32h	15.73	0.0729	8	N/A	1029	SoftRelu
CSEEM	puma32h	717.498	0.0809	8	N/A	337	Relu
CSEEM	puma32h	720.688	0.0692	16	N/A	1089	Tanh
CSEEM	puma32h	517.031	0.0686	16	N/A	1308	SoftRelu
CSEEM	puma32h	801.747	0.0697	16	N/A	1310	Relu
CSEEM	puma32h	518.541	0.066	32	N/A	1293	Tanh
CSEEM	puma32h	919.079	0.0697	32	N/A	1292	SoftRelu
CSEEM	puma32h	757.061	0.0715	32	N/A	1104	Relu
RMSprop	puma32h	912.058	113	N/A	1000	1000	Tanh
RMSprop	puma32h	998.778	47.1	N/A	1000	1089	Tanh
RMSprop	puma32h	783.179	1.15e+03	N/A	1000	1000	SoftRelu
RMSprop	puma32h	974.898	952	N/A	1000	1308	SoftRelu
RMSprop	puma32h	39.129	947	N/A	1000	1000	Relu
RMSprop	puma32h	922.732	789	N/A	1000	1310	Relu
SGD	puma32h	133.768	nan	N/A	1000	1000	Tanh
SGD	puma32h	717.063	nan	N/A	1000	1089	Tanh
SGD	puma32h	331.971	nan	N/A	1000	1000	SoftRelu
SGD	puma32h	539.738	nan	N/A	1000	1308	SoftRelu
SGD	puma32h	63.225	nan	N/A	1000	1000	Relu
SGD	puma32h	777.541	nan	N/A	1000	1310	Relu
Adadelta	quake	530.767	0.544	N/A	1000	1000	Tanh
Adadelta	quake	277.047	0.732	N/A	1000	791	Tanh
Adadelta	quake	170.634	0.0849	N/A	1000	1000	SoftRelu
Adadelta	quake	202.687	0.154	N/A	1000	698	SoftRelu

Table C.29: All Results of regression problems (29/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adadelta	quake	538.458	0.159	N/A	1000	1000	Relu
Adadelta	quake	293.266	0.134	N/A	1000	748	Relu
Adagrad	quake	529.857	0.0547	N/A	1000	1000	Tanh
Adagrad	quake	242.226	0.058	N/A	1000	791	Tanh
Adagrad	quake	83.864	0.0281	N/A	1000	1000	SoftRelu
Adagrad	quake	130.379	0.0401	N/A	1000	698	SoftRelu
Adagrad	quake	467.35	0.0478	N/A	1000	1000	Relu
Adagrad	quake	262.515	0.0468	N/A	1000	748	Relu
Adam	quake	592.701	0.000951	N/A	1000	1000	Tanh
Adam	quake	526.639	0.000972	N/A	1000	791	Tanh
Adam	quake	150.67	0.00161	N/A	1000	1000	SoftRelu
Adam	quake	243.936	0.00292	N/A	1000	698	SoftRelu
Adam	quake	555.85	0.00135	N/A	1000	1000	Relu
Adam	quake	455.83	0.00138	N/A	1000	748	Relu
CSEEM	quake	93.043	0.315	8	N/A	812	Tanh
CSEEM	quake	269.546	0.458	8	N/A	258	SoftRelu
CSEEM	quake	137.971	0.42	8	N/A	409	Relu
CSEEM	quake	27.176	0.316	16	N/A	791	Tanh
CSEEM	quake	718.195	0.348	16	N/A	698	SoftRelu
CSEEM	quake	213.142	0.342	16	N/A	748	Relu
CSEEM	quake	569.674	0.314	32	N/A	814	Tanh
CSEEM	quake	284.25	0.342	32	N/A	709	SoftRelu
CSEEM	quake	459.34	0.365	32	N/A	640	Relu
RMSprop	quake	41.023	0.00586	N/A	1000	1000	Tanh
RMSprop	quake	292.607	0.00458	N/A	1000	791	Tanh
RMSprop	quake	803.229	0.0777	N/A	1000	1000	SoftRelu
RMSprop	quake	277.296	0.0835	N/A	1000	698	SoftRelu
RMSprop	quake	275.002	0.108	N/A	1000	1000	Relu

Table C.30: All Results of regression problems (30/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
RMSprop	quake	302.385	0.141	N/A	1000	748	Relu
SGD	quake	608.183	0.0321	N/A	1000	1000	Tanh
SGD	quake	205.479	0.0314	N/A	1000	791	Tanh
SGD	quake	83.827	nan	N/A	1000	1000	SoftRelu
SGD	quake	167.72	nan	N/A	1000	698	SoftRelu
SGD	quake	451.274	nan	N/A	1000	1000	Relu
SGD	quake	232.797	nan	N/A	1000	748	Relu
Adadelta	stock	995.278	0.703	N/A	1000	1000	Tanh
Adadelta	stock	421.362	0.94	N/A	1000	80	Tanh
Adadelta	stock	600.118	0.285	N/A	1000	1000	SoftRelu
Adadelta	stock	572.101	1.32	N/A	1000	49	SoftRelu
Adadelta	stock	959.455	0.392	N/A	1000	1000	Relu
Adadelta	stock	560.29	0.719	N/A	1000	51	Relu
Adagrad	stock	990.648	0.0326	N/A	1000	1000	Tanh
Adagrad	stock	410.531	0.786	N/A	1000	80	Tanh
Adagrad	stock	550.146	0.00927	N/A	1000	1000	SoftRelu
Adagrad	stock	544.343	0.0228	N/A	1000	49	SoftRelu
Adagrad	stock	970.584	0.00732	N/A	1000	1000	Relu
Adagrad	stock	542.908	0.0108	N/A	1000	51	Relu
Adam	stock	55.912	0.00106	N/A	1000	1000	Tanh
Adam	stock	477.697	0.0183	N/A	1000	80	Tanh
Adam	stock	679.636	0.000712	N/A	1000	1000	SoftRelu
Adam	stock	586.804	0.00081	N/A	1000	49	SoftRelu
Adam	stock	119.529	0.0012	N/A	1000	1000	Relu
Adam	stock	575.55	0.00798	N/A	1000	51	Relu
CSEEM	stock	393.431	0.0134	8	N/A	49	Tanh
CSEEM	stock	544.21	0.00629	8	N/A	53	SoftRelu
CSEEM	stock	234.792	0.00637	8	N/A	71	Relu

Table C.31: All Results of regression problems (31/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
CSEEM	stock	735.992	0.00843	16	N/A	80	Tanh
CSEEM	stock	762.251	0.00582	16	N/A	49	SoftRelu
CSEEM	stock	399.963	0.00722	16	N/A	51	Relu
CSEEM	stock	89.699	0.0076	32	N/A	71	Tanh
CSEEM	stock	30.018	0.00571	32	N/A	56	SoftRelu
CSEEM	stock	488.063	0.00653	32	N/A	56	Relu
RMSprop	stock	816.009	0.00204	N/A	1000	1000	Tanh
RMSprop	stock	464.226	0.00223	N/A	1000	80	Tanh
RMSprop	stock	610.938	0.0041	N/A	1000	1000	SoftRelu
RMSprop	stock	597.616	0.00178	N/A	1000	49	SoftRelu
RMSprop	stock	904.063	0.00378	N/A	1000	1000	Relu
RMSprop	stock	603.446	0.00309	N/A	1000	51	Relu
SGD	stock	957.117	0.0108	N/A	1000	1000	Tanh
SGD	stock	417.454	0.24	N/A	1000	80	Tanh
SGD	stock	690.868	0.00408	N/A	1000	1000	SoftRelu
SGD	stock	585.146	0.00649	N/A	1000	49	SoftRelu
SGD	stock	942.149	0.00415	N/A	1000	1000	Relu
SGD	stock	506.709	0.00731	N/A	1000	51	Relu
Adadelta	tic	610.062	1.11	N/A	1000	1000	Tanh
Adadelta	tic	630.957	0.941	N/A	1000	5121	Tanh
Adadelta	tic	699.311	3.31	N/A	1000	1000	SoftRelu
Adadelta	tic	882.953	0.925	N/A	1000	5205	SoftRelu
Adadelta	tic	216.353	1.53	N/A	1000	1000	Relu
Adadelta	tic	472.501	0.886	N/A	1000	5252	Relu
Adagrad	tic	355.192	0.929	N/A	1000	1000	Tanh
Adagrad	tic	221.843	0.894	N/A	1000	5121	Tanh
Adagrad	tic	132.933	0.921	N/A	1000	1000	SoftRelu
Adagrad	tic	74.651	0.888	N/A	1000	5205	SoftRelu

Table C.32: All Results of regression problems (32/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adagrad	tic	85.509	0.876	N/A	1000	1000	Relu
Adagrad	tic	27.802	0.82	N/A	1000	5252	Relu
Adam	tic	810.0	0.724	N/A	1000	1000	Tanh
Adam	tic	346.204	0.834	N/A	1000	5121	Tanh
Adam	tic	795.521	0.797	N/A	1000	1000	SoftRelu
Adam	tic	153.882	0.845	N/A	1000	5205	SoftRelu
Adam	tic	354.768	0.474	N/A	1000	1000	Relu
Adam	tic	737.73	0.641	N/A	1000	5252	Relu
CSEEM	tic	778.013	0.547	8	N/A	3637	Tanh
CSEEM	tic	917.98	0.447	8	N/A	4516	SoftRelu
CSEEM	tic	909.831	0.366	8	N/A	5390	Relu
CSEEM	tic	535.471	0.397	16	N/A	5121	Tanh
CSEEM	tic	290.455	0.392	16	N/A	5205	SoftRelu
CSEEM	tic	120.634	0.376	16	N/A	5252	Relu
CSEEM	tic	576.248	0.385	32	N/A	5332	Tanh
CSEEM	tic	235.13	0.384	32	N/A	5150	SoftRelu
CSEEM	tic	36.241	0.349	32	N/A	5574	Relu
RMSprop	tic	266.567	2.5	N/A	1000	1000	Tanh
RMSprop	tic	659.235	0.942	N/A	1000	5121	Tanh
RMSprop	tic	336.622	0.944	N/A	1000	1000	SoftRelu
RMSprop	tic	821.07	0.933	N/A	1000	5205	SoftRelu
RMSprop	tic	991.001	0.701	N/A	1000	1000	Relu
RMSprop	tic	166.795	0.394	N/A	1000	5252	Relu
SGD	tic	568.325	nan	N/A	1000	1000	Tanh
SGD	tic	232.608	nan	N/A	1000	5121	Tanh
SGD	tic	472.179	1.8	N/A	1000	1000	SoftRelu
SGD	tic	705.805	41.9	N/A	1000	5205	SoftRelu
SGD	tic	664.804	0.94	N/A	1000	1000	Relu

Table C.33: All Results of regression problems (33/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
SGD	tic	935.567	0.94	N/A	1000	5252	Relu
Adadelta	treasury	446.725	0.144	N/A	1000	1000	Tanh
Adadelta	treasury	427.736	0.944	N/A	1000	79	Tanh
Adadelta	treasury	517.184	0.562	N/A	1000	1000	SoftRelu
Adadelta	treasury	803.981	82.1	N/A	1000	63	SoftRelu
Adadelta	treasury	474.988	0.0693	N/A	1000	1000	Relu
Adadelta	treasury	540.176	809	N/A	1000	57	Relu
Adagrad	treasury	123.599	0.0439	N/A	1000	1000	Tanh
Adagrad	treasury	408.25	0.214	N/A	1000	79	Tanh
Adagrad	treasury	526.494	0.0221	N/A	1000	1000	SoftRelu
Adagrad	treasury	747.748	15.4	N/A	1000	63	SoftRelu
Adagrad	treasury	429.688	0.0774	N/A	1000	1000	Relu
Adagrad	treasury	517.076	2.4	N/A	1000	57	Relu
Adam	treasury	299.426	0.00802	N/A	1000	1000	Tanh
Adam	treasury	479.655	0.167	N/A	1000	79	Tanh
Adam	treasury	821.831	0.00204	N/A	1000	1000	SoftRelu
Adam	treasury	816.022	0.0238	N/A	1000	63	SoftRelu
Adam	treasury	473.317	0.00586	N/A	1000	1000	Relu
Adam	treasury	596.848	0.127	N/A	1000	57	Relu
CSEEM	treasury	641.83	0.0173	8	N/A	79	Tanh
CSEEM	treasury	620.351	0.00478	8	N/A	72	SoftRelu
CSEEM	treasury	369.811	0.00745	8	N/A	54	Relu
CSEEM	treasury	832.095	0.0172	16	N/A	79	Tanh
CSEEM	treasury	850.001	0.00491	16	N/A	63	SoftRelu
CSEEM	treasury	29.017	0.00613	16	N/A	57	Relu
CSEEM	treasury	79.681	0.0147	32	N/A	86	Tanh
CSEEM	treasury	771.689	0.00497	32	N/A	62	SoftRelu
CSEEM	treasury	39.192	0.00555	32	N/A	66	Relu

Table C.34: All Results of regression problems (34/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
RMSprop	treasury	190.424	0.0236	N/A	1000	1000	Tanh
RMSprop	treasury	472.317	0.0793	N/A	1000	79	Tanh
RMSprop	treasury	629.408	11	N/A	1000	1000	SoftRelu
RMSprop	treasury	778.347	12.6	N/A	1000	63	SoftRelu
RMSprop	treasury	881.363	8.05	N/A	1000	1000	Relu
RMSprop	treasury	558.557	7.55	N/A	1000	57	Relu
SGD	treasury	176.637	0.0781	N/A	1000	1000	Tanh
SGD	treasury	392.899	0.168	N/A	1000	79	Tanh
SGD	treasury	616.599	nan	N/A	1000	1000	SoftRelu
SGD	treasury	737.838	nan	N/A	1000	63	SoftRelu
SGD	treasury	434.291	1.18e+05	N/A	1000	1000	Relu
SGD	treasury	492.176	1.09e+08	N/A	1000	57	Relu
Adadelta	wankara	919.105	0.803	N/A	1000	1000	Tanh
Adadelta	wankara	485.424	1.04	N/A	1000	77	Tanh
Adadelta	wankara	595.845	0.538	N/A	1000	1000	SoftRelu
Adadelta	wankara	837.571	2.44	N/A	1000	49	SoftRelu
Adadelta	wankara	713.959	0.517	N/A	1000	1000	Relu
Adadelta	wankara	614.823	0.423	N/A	1000	53	Relu
Adagrad	wankara	915.609	0.0903	N/A	1000	1000	Tanh
Adagrad	wankara	448.56	0.777	N/A	1000	77	Tanh
Adagrad	wankara	563.489	0.00365	N/A	1000	1000	SoftRelu
Adagrad	wankara	788.45	0.166	N/A	1000	49	SoftRelu
Adagrad	wankara	721.172	0.00277	N/A	1000	1000	Relu
Adagrad	wankara	593.818	0.00458	N/A	1000	53	Relu
Adam	wankara	874.141	0.000513	N/A	1000	1000	Tanh
Adam	wankara	494.674	0.0328	N/A	1000	77	Tanh
Adam	wankara	618.983	0.000721	N/A	1000	1000	SoftRelu
Adam	wankara	859.795	0.000734	N/A	1000	49	SoftRelu

Table C.35: All Results of regression problems (35/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adam	wankara	731.399	0.000683	N/A	1000	1000	Relu
Adam	wankara	649.16	0.000937	N/A	1000	53	Relu
CSEEM	wankara	26.552	0.00487	8	N/A	76	Tanh
CSEEM	wankara	833.121	0.00103	8	N/A	43	SoftRelu
CSEEM	wankara	230.992	0.00128	8	N/A	56	Relu
CSEEM	wankara	178.002	0.00486	16	N/A	77	Tanh
CSEEM	wankara	471.011	0.00104	16	N/A	49	SoftRelu
CSEEM	wankara	118.055	0.00133	16	N/A	53	Relu
CSEEM	wankara	654.514	0.00437	32	N/A	61	Tanh
CSEEM	wankara	799.99	0.00092	32	N/A	50	SoftRelu
CSEEM	wankara	91.207	0.00135	32	N/A	42	Relu
RMSprop	wankara	566.225	0.00171	N/A	1000	1000	Tanh
RMSprop	wankara	492.9	0.000933	N/A	1000	77	Tanh
RMSprop	wankara	660.005	0.00182	N/A	1000	1000	SoftRelu
RMSprop	wankara	147.127	0.000914	N/A	1000	49	SoftRelu
RMSprop	wankara	832.006	0.00189	N/A	1000	1000	Relu
RMSprop	wankara	659.805	0.000916	N/A	1000	53	Relu
SGD	wankara	872.884	0.0143	N/A	1000	1000	Tanh
SGD	wankara	429.078	0.35	N/A	1000	77	Tanh
SGD	wankara	470.225	0.00125	N/A	1000	1000	SoftRelu
SGD	wankara	765.419	0.00122	N/A	1000	49	SoftRelu
SGD	wankara	695.536	0.00115	N/A	1000	1000	Relu
SGD	wankara	592.206	0.00119	N/A	1000	53	Relu
Adadelta	wizmir	388.028	0.846	N/A	1000	1000	Tanh
Adadelta	wizmir	406.854	0.969	N/A	1000	41	Tanh
Adadelta	wizmir	418.72	0.611	N/A	1000	1000	SoftRelu
Adadelta	wizmir	882.086	1.64	N/A	1000	45	SoftRelu
Adadelta	wizmir	974.198	0.579	N/A	1000	1000	Relu

Table C.36: All Results of regression problems (36/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
Adadelta	wizmir	554.476	0.701	N/A	1000	48	Relu
Adagrad	wizmir	416.425	0.122	N/A	1000	1000	Tanh
Adagrad	wizmir	382.71	0.895	N/A	1000	41	Tanh
Adagrad	wizmir	291.821	0.00245	N/A	1000	1000	SoftRelu
Adagrad	wizmir	942.846	0.0656	N/A	1000	45	SoftRelu
Adagrad	wizmir	971.915	0.00261	N/A	1000	1000	Relu
Adagrad	wizmir	531.085	0.00185	N/A	1000	48	Relu
Adam	wizmir	583.663	0.000313	N/A	1000	1000	Tanh
Adam	wizmir	434.257	0.187	N/A	1000	41	Tanh
Adam	wizmir	279.064	0.000353	N/A	1000	1000	SoftRelu
Adam	wizmir	809.111	0.000417	N/A	1000	45	SoftRelu
Adam	wizmir	150.801	0.000351	N/A	1000	1000	Relu
Adam	wizmir	568.403	0.000602	N/A	1000	48	Relu
CSEEM	wizmir	897.604	0.0054	8	N/A	66	Tanh
CSEEM	wizmir	43.266	0.00141	8	N/A	48	SoftRelu
CSEEM	wizmir	752.414	0.00243	8	N/A	44	Relu
CSEEM	wizmir	766.0	0.00589	16	N/A	41	Tanh
CSEEM	wizmir	462.0	0.00131	16	N/A	45	SoftRelu
CSEEM	wizmir	858.232	0.00172	16	N/A	48	Relu
CSEEM	wizmir	491.232	0.00583	32	N/A	63	Tanh
CSEEM	wizmir	98.88	0.00134	32	N/A	39	SoftRelu
CSEEM	wizmir	732.425	0.00201	32	N/A	48	Relu
RMSprop	wizmir	207.009	0.00153	N/A	1000	1000	Tanh
RMSprop	wizmir	435.168	0.143	N/A	1000	41	Tanh
RMSprop	wizmir	506.215	0.00135	N/A	1000	1000	SoftRelu
RMSprop	wizmir	801.235	0.000644	N/A	1000	45	SoftRelu
RMSprop	wizmir	662.242	0.00144	N/A	1000	1000	Relu
RMSprop	wizmir	551.858	0.000552	N/A	1000	48	Relu

Table C.37: All Results of Regression problems (37/37).

Method	Dataset	Time (s)	N. Loss	n_c	epochs	k	$\phi(\cdot)$
SGD	wizmir	342.419	0.0221	N/A	1000	1000	Tanh
SGD	wizmir	356.456	0.621	N/A	1000	41	Tanh
SGD	wizmir	141.377	0.000805	N/A	1000	1000	SoftRelu
SGD	wizmir	748.675	0.00172	N/A	1000	45	SoftRelu
SGD	wizmir	937.574	0.000754	N/A	1000	1000	Relu
SGD	wizmir	505.77	0.000672	N/A	1000	48	Relu

Appendix D

All Classification Results

Table D.1: All CSEEM Results of classification problems (1/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	appendicitis	688.281	0.717	N/A	1000	1000	Tanh	SoftMax
Adadelta	appendicitis	362.11	0.396	N/A	1000	30	Tanh	SoftMax
Adadelta	appendicitis	134.738	0.604	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	appendicitis	422.857	0.302	N/A	1000	16	SoftRelu	SoftMax
Adadelta	appendicitis	622.394	0.547	N/A	1000	1000	Relu	SoftMax
Adadelta	appendicitis	321.524	0.462	N/A	1000	31	Relu	SoftMax
Adagrad	appendicitis	634.95	0.604	N/A	1000	1000	Tanh	SoftMax
Adagrad	appendicitis	316.466	0.547	N/A	1000	30	Tanh	SoftMax
Adagrad	appendicitis	60.333	0.689	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	appendicitis	376.155	0.67	N/A	1000	16	SoftRelu	SoftMax
Adagrad	appendicitis	617.16	0.462	N/A	1000	1000	Relu	SoftMax
Adagrad	appendicitis	291.807	0.642	N/A	1000	31	Relu	SoftMax
Adam	appendicitis	748.706	0.896	N/A	1000	1000	Tanh	SoftMax
Adam	appendicitis	415.213	0.858	N/A	1000	30	Tanh	SoftMax
Adam	appendicitis	156.512	0.896	N/A	1000	1000	SoftRelu	SoftMax
Adam	appendicitis	425.13	0.849	N/A	1000	16	SoftRelu	SoftMax
Adam	appendicitis	664.578	0.877	N/A	1000	1000	Relu	SoftMax
Adam	appendicitis	360.788	0.868	N/A	1000	31	Relu	SoftMax
CSEEM	appendicitis	9.001	0.943	8	N/A	25	Tanh	ClipRound
CSEEM	appendicitis	7.0	0.915	8	N/A	15	SoftRelu	ClipRound
CSEEM	appendicitis	8.0	0.934	8	N/A	22	Relu	ClipRound
CSEEM	appendicitis	18.999	0.934	16	N/A	30	Tanh	ClipRound
CSEEM	appendicitis	22.992	0.915	16	N/A	16	SoftRelu	ClipRound
CSEEM	appendicitis	18.986	0.934	16	N/A	31	Relu	ClipRound
CSEEM	appendicitis	42.001	0.915	32	N/A	21	Tanh	ClipRound
CSEEM	appendicitis	53.998	0.925	32	N/A	23	SoftRelu	ClipRound
CSEEM	appendicitis	50.001	0.934	32	N/A	27	Relu	ClipRound
RMSprop	appendicitis	675.062	0.896	N/A	1000	1000	Tanh	SoftMax

Table D.2: All CSEEM Results of classification problems (2/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	appendicitis	398.897	0.849	N/A	1000	30	Tanh	SoftMax
RMSprop	appendicitis	186.009	0.887	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	appendicitis	472.313	0.868	N/A	1000	16	SoftRelu	SoftMax
RMSprop	appendicitis	789.009	0.868	N/A	1000	1000	Relu	SoftMax
RMSprop	appendicitis	372.883	0.887	N/A	1000	31	Relu	SoftMax
SGD	appendicitis	658.238	0.66	N/A	1000	1000	Tanh	SoftMax
SGD	appendicitis	287.478	0.575	N/A	1000	30	Tanh	SoftMax
SGD	appendicitis	72.593	0.33	N/A	1000	1000	SoftRelu	SoftMax
SGD	appendicitis	351.872	0.368	N/A	1000	16	SoftRelu	SoftMax
SGD	appendicitis	589.557	0.566	N/A	1000	1000	Relu	SoftMax
SGD	appendicitis	267.528	0.745	N/A	1000	31	Relu	SoftMax
Adadelta	australian	705.465	0.651	N/A	1000	1000	Tanh	SoftMax
Adadelta	australian	701.643	0.454	N/A	1000	196	Tanh	SoftMax
Adadelta	australian	738.584	0.555	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	australian	433.879	0.555	N/A	1000	156	SoftRelu	SoftMax
Adadelta	australian	948.147	0.555	N/A	1000	1000	Relu	SoftMax
Adadelta	australian	746.04	0.555	N/A	1000	141	Relu	SoftMax
Adagrad	australian	861.577	0.606	N/A	1000	1000	Tanh	SoftMax
Adagrad	australian	684.285	0.483	N/A	1000	196	Tanh	SoftMax
Adagrad	australian	873.111	0.555	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	australian	121.762	0.555	N/A	1000	156	SoftRelu	SoftMax
Adagrad	australian	17.991	0.555	N/A	1000	1000	Relu	SoftMax
Adagrad	australian	727.84	0.555	N/A	1000	141	Relu	SoftMax
Adam	australian	737.256	0.619	N/A	1000	1000	Tanh	SoftMax
Adam	australian	749.67	0.71	N/A	1000	196	Tanh	SoftMax
Adam	australian	901.272	0.555	N/A	1000	1000	SoftRelu	SoftMax
Adam	australian	124.691	0.555	N/A	1000	156	SoftRelu	SoftMax
Adam	australian	947.962	0.555	N/A	1000	1000	Relu	SoftMax

Table D.3: All CSEEM Results of classification problems (3/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	australian	768.977	0.555	N/A	1000	141	Relu	SoftMax
CSEEM	australian	507.999	0.939	8	N/A	243	Tanh	ClipRound
CSEEM	australian	503.999	0.919	8	N/A	157	SoftRelu	ClipRound
CSEEM	australian	789.0	0.938	8	N/A	246	Relu	ClipRound
CSEEM	australian	496.999	0.932	16	N/A	196	Tanh	ClipRound
CSEEM	australian	649.008	0.92	16	N/A	156	SoftRelu	ClipRound
CSEEM	australian	75.001	0.92	16	N/A	141	Relu	ClipRound
CSEEM	australian	955.999	0.923	32	N/A	216	Tanh	ClipRound
CSEEM	australian	664.508	0.919	32	N/A	153	SoftRelu	ClipRound
CSEEM	australian	893.0	0.932	32	N/A	196	Relu	ClipRound
RMSprop	australian	441.002	0.659	N/A	1000	1000	Tanh	SoftMax
RMSprop	australian	733.814	0.691	N/A	1000	196	Tanh	SoftMax
RMSprop	australian	793.004	0.555	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	australian	93.431	0.555	N/A	1000	156	SoftRelu	SoftMax
RMSprop	australian	448.965	0.555	N/A	1000	1000	Relu	SoftMax
RMSprop	australian	755.592	0.555	N/A	1000	141	Relu	SoftMax
SGD	australian	697.413	0.635	N/A	1000	1000	Tanh	SoftMax
SGD	australian	690.934	0.607	N/A	1000	196	Tanh	SoftMax
SGD	australian	824.166	0.555	N/A	1000	1000	SoftRelu	SoftMax
SGD	australian	55.561	0.555	N/A	1000	156	SoftRelu	SoftMax
SGD	australian	820.238	0.555	N/A	1000	1000	Relu	SoftMax
SGD	australian	720.132	0.555	N/A	1000	141	Relu	SoftMax
Adadelta	automobile	943.802	0.314	N/A	1000	1000	Tanh	SoftMax
Adadelta	automobile	437.954	0.157	N/A	1000	73	Tanh	SoftMax
Adadelta	automobile	497.904	0.0189	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	automobile	562.988	0.0189	N/A	1000	60	SoftRelu	SoftMax
Adadelta	automobile	940.182	0.0189	N/A	1000	1000	Relu	SoftMax
Adadelta	automobile	455.214	0.0189	N/A	1000	71	Relu	SoftMax

Table D.4: All CSEEM Results of classification problems (4/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adagrad	automobile	844.561	0.384	N/A	1000	1000	Tanh	SoftMax
Adagrad	automobile	392.087	0.208	N/A	1000	73	Tanh	SoftMax
Adagrad	automobile	441.775	0.0189	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	automobile	502.838	0.0189	N/A	1000	60	SoftRelu	SoftMax
Adagrad	automobile	833.192	0.0189	N/A	1000	1000	Relu	SoftMax
Adagrad	automobile	437.383	0.0189	N/A	1000	71	Relu	SoftMax
Adam	automobile	917.106	0.377	N/A	1000	1000	Tanh	SoftMax
Adam	automobile	465.064	0.421	N/A	1000	73	Tanh	SoftMax
Adam	automobile	548.087	0.0189	N/A	1000	1000	SoftRelu	SoftMax
Adam	automobile	546.255	0.0189	N/A	1000	60	SoftRelu	SoftMax
Adam	automobile	896.388	0.0189	N/A	1000	1000	Relu	SoftMax
Adam	automobile	128.812	0.0189	N/A	1000	71	Relu	SoftMax
CSEEM	automobile	34.998	0.931	8	N/A	82	Tanh	ClipRound
CSEEM	automobile	19.999	0.874	8	N/A	63	SoftRelu	ClipRound
CSEEM	automobile	55.0	0.881	8	N/A	65	Relu	ClipRound
CSEEM	automobile	110.999	0.925	16	N/A	73	Tanh	ClipRound
CSEEM	automobile	109.006	0.868	16	N/A	60	SoftRelu	ClipRound
CSEEM	automobile	120.998	0.943	16	N/A	71	Relu	ClipRound
CSEEM	automobile	420.0	0.906	32	N/A	66	Tanh	ClipRound
CSEEM	automobile	145.0	0.906	32	N/A	66	SoftRelu	ClipRound
CSEEM	automobile	126.0	0.855	32	N/A	57	Relu	ClipRound
RMSprop	automobile	228.09	0.371	N/A	1000	1000	Tanh	SoftMax
RMSprop	automobile	434.806	0.277	N/A	1000	73	Tanh	SoftMax
RMSprop	automobile	740.405	0.0189	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	automobile	553.702	0.0189	N/A	1000	60	SoftRelu	SoftMax
RMSprop	automobile	61.239	0.0189	N/A	1000	1000	Relu	SoftMax
RMSprop	automobile	411.475	0.0189	N/A	1000	71	Relu	SoftMax
SGD	automobile	801.754	0.428	N/A	1000	1000	Tanh	SoftMax

Table D.5: All CSEEM Results of classification problems (5/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
SGD	automobile	374.219	0.119	N/A	1000	73	Tanh	SoftMax
SGD	automobile	537.025	0.0189	N/A	1000	1000	SoftRelu	SoftMax
SGD	automobile	476.518	0.0189	N/A	1000	60	SoftRelu	SoftMax
SGD	automobile	855.266	0.0189	N/A	1000	1000	Relu	SoftMax
SGD	automobile	325.923	0.0189	N/A	1000	71	Relu	SoftMax
Adadelta	balance	380.114	0.28	N/A	1000	1000	Tanh	SoftMax
Adadelta	balance	578.008	0.418	N/A	1000	111	Tanh	SoftMax
Adadelta	balance	949.475	0.0848	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	balance	774.278	0.24	N/A	1000	80	SoftRelu	SoftMax
Adadelta	balance	500.104	0.192	N/A	1000	1000	Relu	SoftMax
Adadelta	balance	698.647	0.43	N/A	1000	102	Relu	SoftMax
Adagrad	balance	385.215	0.251	N/A	1000	1000	Tanh	SoftMax
Adagrad	balance	576.465	0.214	N/A	1000	111	Tanh	SoftMax
Adagrad	balance	763.078	0.277	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	balance	753.12	0.334	N/A	1000	80	SoftRelu	SoftMax
Adagrad	balance	493.985	0.275	N/A	1000	1000	Relu	SoftMax
Adagrad	balance	687.494	0.219	N/A	1000	102	Relu	SoftMax
Adam	balance	518.133	0.878	N/A	1000	1000	Tanh	SoftMax
Adam	balance	624.096	0.89	N/A	1000	111	Tanh	SoftMax
Adam	balance	962.125	0.894	N/A	1000	1000	SoftRelu	SoftMax
Adam	balance	786.451	0.878	N/A	1000	80	SoftRelu	SoftMax
Adam	balance	614.806	0.88	N/A	1000	1000	Relu	SoftMax
Adam	balance	746.805	0.877	N/A	1000	102	Relu	SoftMax
CSEEM	balance	237.0	0.906	8	N/A	88	Tanh	ClipRound
CSEEM	balance	656.0	0.904	8	N/A	90	SoftRelu	ClipRound
CSEEM	balance	952.0	0.912	8	N/A	102	Relu	ClipRound
CSEEM	balance	887.999	0.915	16	N/A	111	Tanh	ClipRound
CSEEM	balance	148.999	0.907	16	N/A	80	SoftRelu	ClipRound

Table D.6: All CSEEM Results of classification problems (6/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	balance	932.986	0.915	16	N/A	102	Relu	ClipRound
CSEEM	balance	60.999	0.915	32	N/A	123	Tanh	ClipRound
CSEEM	balance	902.0	0.915	32	N/A	113	SoftRelu	ClipRound
CSEEM	balance	548.999	0.906	32	N/A	92	Relu	ClipRound
RMSprop	balance	497.001	0.91	N/A	1000	1000	Tanh	SoftMax
RMSprop	balance	586.14	0.872	N/A	1000	111	Tanh	SoftMax
RMSprop	balance	499.513	0.91	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	balance	802.18	0.91	N/A	1000	80	SoftRelu	SoftMax
RMSprop	balance	211.168	0.891	N/A	1000	1000	Relu	SoftMax
RMSprop	balance	718.801	0.883	N/A	1000	102	Relu	SoftMax
SGD	balance	382.976	0.448	N/A	1000	1000	Tanh	SoftMax
SGD	balance	533.459	0.234	N/A	1000	111	Tanh	SoftMax
SGD	balance	358.81	0.483	N/A	1000	1000	SoftRelu	SoftMax
SGD	balance	771.138	0.406	N/A	1000	80	SoftRelu	SoftMax
SGD	balance	536.336	0.504	N/A	1000	1000	Relu	SoftMax
SGD	balance	654.702	0.346	N/A	1000	102	Relu	SoftMax
Adadelta	bands	143.732	0.627	N/A	1000	1000	Tanh	SoftMax
Adadelta	bands	625.653	0.578	N/A	1000	173	Tanh	SoftMax
Adadelta	bands	162.996	0.638	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	bands	832.66	0.37	N/A	1000	136	SoftRelu	SoftMax
Adadelta	bands	736.581	0.37	N/A	1000	1000	Relu	SoftMax
Adadelta	bands	84.329	0.37	N/A	1000	163	Relu	SoftMax
Adagrad	bands	113.041	0.638	N/A	1000	1000	Tanh	SoftMax
Adagrad	bands	584.61	0.592	N/A	1000	173	Tanh	SoftMax
Adagrad	bands	90.368	0.37	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	bands	824.535	0.367	N/A	1000	136	SoftRelu	SoftMax
Adagrad	bands	825.147	0.367	N/A	1000	1000	Relu	SoftMax
Adagrad	bands	132.161	0.633	N/A	1000	163	Relu	SoftMax

Table D.7: All CSEEM Results of classification problems (7/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	bands	90.43	0.562	N/A	1000	1000	Tanh	SoftMax
Adam	bands	619.117	0.595	N/A	1000	173	Tanh	SoftMax
Adam	bands	150.355	0.37	N/A	1000	1000	SoftRelu	SoftMax
Adam	bands	874.457	0.37	N/A	1000	136	SoftRelu	SoftMax
Adam	bands	713.551	0.37	N/A	1000	1000	Relu	SoftMax
Adam	bands	277.732	0.37	N/A	1000	163	Relu	SoftMax
CSEEM	bands	311.999	0.921	8	N/A	183	Tanh	ClipRound
CSEEM	bands	233.0	0.899	8	N/A	157	SoftRelu	ClipRound
CSEEM	bands	106.999	0.816	8	N/A	84	Relu	ClipRound
CSEEM	bands	350.999	0.888	16	N/A	173	Tanh	ClipRound
CSEEM	bands	399.0	0.879	16	N/A	136	SoftRelu	ClipRound
CSEEM	bands	188.004	0.901	16	N/A	163	Relu	ClipRound
CSEEM	bands	778.999	0.866	32	N/A	127	Tanh	ClipRound
CSEEM	bands	775.998	0.882	32	N/A	148	SoftRelu	ClipRound
CSEEM	bands	801.0	0.882	32	N/A	145	Relu	ClipRound
RMSprop	bands	55.844	0.674	N/A	1000	1000	Tanh	SoftMax
RMSprop	bands	637.723	0.668	N/A	1000	173	Tanh	SoftMax
RMSprop	bands	58.917	0.37	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	bands	864.443	0.37	N/A	1000	136	SoftRelu	SoftMax
RMSprop	bands	599.164	0.37	N/A	1000	1000	Relu	SoftMax
RMSprop	bands	903.988	0.37	N/A	1000	163	Relu	SoftMax
SGD	bands	976.18	0.66	N/A	1000	1000	Tanh	SoftMax
SGD	bands	532.66	0.575	N/A	1000	173	Tanh	SoftMax
SGD	bands	992.159	0.367	N/A	1000	1000	SoftRelu	SoftMax
SGD	bands	823.202	0.37	N/A	1000	136	SoftRelu	SoftMax
SGD	bands	786.062	0.504	N/A	1000	1000	Relu	SoftMax
SGD	bands	857.17	0.37	N/A	1000	163	Relu	SoftMax
Adadelta	breast	761.316	0.473	N/A	1000	1000	Tanh	SoftMax

Table D.8: All CSEEM Results of classification problems (8/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	breast	447.931	0.538	N/A	1000	92	Tanh	SoftMax
Adadelta	breast	230.174	0.534	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	breast	619.999	0.404	N/A	1000	111	SoftRelu	SoftMax
Adadelta	breast	243.565	0.531	N/A	1000	1000	Relu	SoftMax
Adadelta	breast	556.236	0.419	N/A	1000	115	Relu	SoftMax
Adagrad	breast	695.672	0.646	N/A	1000	1000	Tanh	SoftMax
Adagrad	breast	420.974	0.52	N/A	1000	92	Tanh	SoftMax
Adagrad	breast	180.9	0.588	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	breast	609.414	0.534	N/A	1000	111	SoftRelu	SoftMax
Adagrad	breast	271.848	0.574	N/A	1000	1000	Relu	SoftMax
Adagrad	breast	556.52	0.588	N/A	1000	115	Relu	SoftMax
Adam	breast	662.486	0.704	N/A	1000	1000	Tanh	SoftMax
Adam	breast	484.371	0.704	N/A	1000	92	Tanh	SoftMax
Adam	breast	241.801	0.697	N/A	1000	1000	SoftRelu	SoftMax
Adam	breast	708.168	0.693	N/A	1000	111	SoftRelu	SoftMax
Adam	breast	277.383	0.657	N/A	1000	1000	Relu	SoftMax
Adam	breast	585.134	0.704	N/A	1000	115	Relu	SoftMax
CSEEM	breast	146.999	0.877	8	N/A	95	Tanh	ClipRound
CSEEM	breast	107.999	0.863	8	N/A	80	SoftRelu	ClipRound
CSEEM	breast	89.0	0.877	8	N/A	88	Relu	ClipRound
CSEEM	breast	153.0	0.863	16	N/A	92	Tanh	ClipRound
CSEEM	breast	400.007	0.91	16	N/A	111	SoftRelu	ClipRound
CSEEM	breast	301.993	0.917	16	N/A	115	Relu	ClipRound
CSEEM	breast	431.998	0.866	32	N/A	79	Tanh	ClipRound
CSEEM	breast	627.999	0.895	32	N/A	102	SoftRelu	ClipRound
CSEEM	breast	540.0	0.877	32	N/A	84	Relu	ClipRound
RMSprop	breast	742.738	0.704	N/A	1000	1000	Tanh	SoftMax
RMSprop	breast	466.075	0.675	N/A	1000	92	Tanh	SoftMax

Table D.9: All CSEEM Results of classification problems (9/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	breast	408.401	0.686	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	breast	671.876	0.69	N/A	1000	111	SoftRelu	SoftMax
RMSprop	breast	241.236	0.661	N/A	1000	1000	Relu	SoftMax
RMSprop	breast	744.105	0.671	N/A	1000	115	Relu	SoftMax
SGD	breast	696.608	0.56	N/A	1000	1000	Tanh	SoftMax
SGD	breast	415.071	0.585	N/A	1000	92	Tanh	SoftMax
SGD	breast	360.049	0.603	N/A	1000	1000	SoftRelu	SoftMax
SGD	breast	567.494	0.487	N/A	1000	111	SoftRelu	SoftMax
SGD	breast	211.916	0.513	N/A	1000	1000	Relu	SoftMax
SGD	breast	575.285	0.56	N/A	1000	115	Relu	SoftMax
Adadelta	bupa	102.407	0.591	N/A	1000	1000	Tanh	SoftMax
Adadelta	bupa	506.615	0.467	N/A	1000	117	Tanh	SoftMax
Adadelta	bupa	790.866	0.472	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	bupa	691.361	0.496	N/A	1000	113	SoftRelu	SoftMax
Adadelta	bupa	571.105	0.554	N/A	1000	1000	Relu	SoftMax
Adadelta	bupa	584.91	0.435	N/A	1000	137	Relu	SoftMax
Adagrad	bupa	948.841	0.583	N/A	1000	1000	Tanh	SoftMax
Adagrad	bupa	458.082	0.612	N/A	1000	117	Tanh	SoftMax
Adagrad	bupa	751.996	0.438	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	bupa	652.067	0.554	N/A	1000	113	SoftRelu	SoftMax
Adagrad	bupa	490.42	0.504	N/A	1000	1000	Relu	SoftMax
Adagrad	bupa	588.716	0.565	N/A	1000	137	Relu	SoftMax
Adam	bupa	863.978	0.707	N/A	1000	1000	Tanh	SoftMax
Adam	bupa	525.561	0.687	N/A	1000	117	Tanh	SoftMax
Adam	bupa	673.697	0.42	N/A	1000	1000	SoftRelu	SoftMax
Adam	bupa	722.132	0.516	N/A	1000	113	SoftRelu	SoftMax
Adam	bupa	704.601	0.562	N/A	1000	1000	Relu	SoftMax
Adam	bupa	708.91	0.455	N/A	1000	137	Relu	SoftMax

Table D.10: All CSEEM Results of classification problems (10/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	bupa	296.0	0.875	8	N/A	122	Tanh	ClipRound
CSEEM	bupa	123.999	0.872	8	N/A	108	SoftRelu	ClipRound
CSEEM	bupa	138.0	0.861	8	N/A	129	Relu	ClipRound
CSEEM	bupa	340.0	0.887	16	N/A	117	Tanh	ClipRound
CSEEM	bupa	602.995	0.87	16	N/A	113	SoftRelu	ClipRound
CSEEM	bupa	446.985	0.884	16	N/A	137	Relu	ClipRound
CSEEM	bupa	372.999	0.89	32	N/A	132	Tanh	ClipRound
CSEEM	bupa	69.999	0.887	32	N/A	131	SoftRelu	ClipRound
CSEEM	bupa	85.001	0.861	32	N/A	98	Relu	ClipRound
RMSprop	bupa	865.004	0.704	N/A	1000	1000	Tanh	SoftMax
RMSprop	bupa	532.227	0.704	N/A	1000	117	Tanh	SoftMax
RMSprop	bupa	593.167	0.649	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	bupa	693.293	0.586	N/A	1000	113	SoftRelu	SoftMax
RMSprop	bupa	893.313	0.687	N/A	1000	1000	Relu	SoftMax
RMSprop	bupa	607.023	0.42	N/A	1000	137	Relu	SoftMax
SGD	bupa	858.365	0.539	N/A	1000	1000	Tanh	SoftMax
SGD	bupa	435.842	0.554	N/A	1000	117	Tanh	SoftMax
SGD	bupa	711.87	0.525	N/A	1000	1000	SoftRelu	SoftMax
SGD	bupa	634.775	0.507	N/A	1000	113	SoftRelu	SoftMax
SGD	bupa	333.194	0.452	N/A	1000	1000	Relu	SoftMax
SGD	bupa	538.22	0.586	N/A	1000	137	Relu	SoftMax
Adadelta	cleveland	919.209	0.37	N/A	1000	1000	Tanh	SoftMax
Adadelta	cleveland	520.087	0.313	N/A	1000	123	Tanh	SoftMax
Adadelta	cleveland	220.294	0.279	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	cleveland	704.112	0.182	N/A	1000	127	SoftRelu	SoftMax
Adadelta	cleveland	317.874	0.135	N/A	1000	1000	Relu	SoftMax
Adadelta	cleveland	613.923	0.539	N/A	1000	139	Relu	SoftMax
Adagrad	cleveland	772.798	0.367	N/A	1000	1000	Tanh	SoftMax

Table D.11: All CSEEM Results of classification problems (11/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adagrad	cleveland	477.628	0.377	N/A	1000	123	Tanh	SoftMax
Adagrad	cleveland	153.33	0.273	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	cleveland	698.499	0.259	N/A	1000	127	SoftRelu	SoftMax
Adagrad	cleveland	262.035	0.269	N/A	1000	1000	Relu	SoftMax
Adagrad	cleveland	562.901	0.539	N/A	1000	139	Relu	SoftMax
Adam	cleveland	728.44	0.512	N/A	1000	1000	Tanh	SoftMax
Adam	cleveland	596.159	0.549	N/A	1000	123	Tanh	SoftMax
Adam	cleveland	425.635	0.552	N/A	1000	1000	SoftRelu	SoftMax
Adam	cleveland	703.998	0.539	N/A	1000	127	SoftRelu	SoftMax
Adam	cleveland	312.569	0.545	N/A	1000	1000	Relu	SoftMax
Adam	cleveland	609.127	0.539	N/A	1000	139	Relu	SoftMax
CSEEM	cleveland	109.998	0.751	8	N/A	119	Tanh	ClipRound
CSEEM	cleveland	297.0	0.869	8	N/A	148	SoftRelu	ClipRound
CSEEM	cleveland	211.999	0.855	8	N/A	144	Relu	ClipRound
CSEEM	cleveland	429.999	0.788	16	N/A	123	Tanh	ClipRound
CSEEM	cleveland	457.007	0.818	16	N/A	127	SoftRelu	ClipRound
CSEEM	cleveland	283.001	0.815	16	N/A	139	Relu	ClipRound
CSEEM	cleveland	603.999	0.835	32	N/A	138	Tanh	ClipRound
CSEEM	cleveland	718.0	0.801	32	N/A	135	SoftRelu	ClipRound
CSEEM	cleveland	698.002	0.845	32	N/A	139	Relu	ClipRound
RMSprop	cleveland	819.028	0.545	N/A	1000	1000	Tanh	SoftMax
RMSprop	cleveland	511.206	0.549	N/A	1000	123	Tanh	SoftMax
RMSprop	cleveland	402.686	0.519	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	cleveland	700.964	0.539	N/A	1000	127	SoftRelu	SoftMax
RMSprop	cleveland	168.999	0.539	N/A	1000	1000	Relu	SoftMax
RMSprop	cleveland	596.892	0.559	N/A	1000	139	Relu	SoftMax
SGD	cleveland	746.502	0.357	N/A	1000	1000	Tanh	SoftMax
SGD	cleveland	461.602	0.35	N/A	1000	123	Tanh	SoftMax

Table D.12: All CSEEM Results of classification problems (12/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
SGD	cleveland	376.331	0.424	N/A	1000	1000	SoftRelu	SoftMax
SGD	cleveland	632.276	0.444	N/A	1000	127	SoftRelu	SoftMax
SGD	cleveland	137.254	0.418	N/A	1000	1000	Relu	SoftMax
SGD	cleveland	544.692	0.121	N/A	1000	139	Relu	SoftMax
Adadelta	crx	654.589	0.423	N/A	1000	1000	Tanh	SoftMax
Adadelta	crx	685.555	0.544	N/A	1000	171	Tanh	SoftMax
Adadelta	crx	371.549	0.461	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	crx	90.137	0.453	N/A	1000	200	SoftRelu	SoftMax
Adadelta	crx	335.321	0.453	N/A	1000	1000	Relu	SoftMax
Adadelta	crx	828.765	0.453	N/A	1000	141	Relu	SoftMax
Adagrad	crx	569.66	0.579	N/A	1000	1000	Tanh	SoftMax
Adagrad	crx	686.583	0.594	N/A	1000	171	Tanh	SoftMax
Adagrad	crx	181.359	0.453	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	crx	138.158	0.453	N/A	1000	200	SoftRelu	SoftMax
Adagrad	crx	219.424	0.453	N/A	1000	1000	Relu	SoftMax
Adagrad	crx	827.971	0.453	N/A	1000	141	Relu	SoftMax
Adam	crx	707.712	0.706	N/A	1000	1000	Tanh	SoftMax
Adam	crx	772.484	0.692	N/A	1000	171	Tanh	SoftMax
Adam	crx	961.26	0.453	N/A	1000	1000	SoftRelu	SoftMax
Adam	crx	141.992	0.453	N/A	1000	200	SoftRelu	SoftMax
Adam	crx	451.553	0.453	N/A	1000	1000	Relu	SoftMax
Adam	crx	887.118	0.453	N/A	1000	141	Relu	SoftMax
CSEEM	crx	288.999	0.922	8	N/A	160	Tanh	ClipRound
CSEEM	crx	855.001	0.933	8	N/A	199	SoftRelu	ClipRound
CSEEM	crx	339.0	0.914	8	N/A	106	Relu	ClipRound
CSEEM	crx	67.0	0.925	16	N/A	171	Tanh	ClipRound
CSEEM	crx	938.009	0.931	16	N/A	200	SoftRelu	ClipRound
CSEEM	crx	88.999	0.922	16	N/A	141	Relu	ClipRound

Table D.13: All CSEEM Results of classification problems (13/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	crx	686.0	0.948	32	N/A	208	Tanh	ClipRound
CSEEM	crx	834.999	0.93	32	N/A	175	SoftRelu	ClipRound
CSEEM	crx	550.51	0.926	32	N/A	152	Relu	ClipRound
RMSprop	crx	391.083	0.533	N/A	1000	1000	Tanh	SoftMax
RMSprop	crx	710.598	0.662	N/A	1000	171	Tanh	SoftMax
RMSprop	crx	424.442	0.453	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	crx	135.358	0.453	N/A	1000	200	SoftRelu	SoftMax
RMSprop	crx	532.513	0.453	N/A	1000	1000	Relu	SoftMax
RMSprop	crx	882.361	0.453	N/A	1000	141	Relu	SoftMax
SGD	crx	656.909	0.639	N/A	1000	1000	Tanh	SoftMax
SGD	crx	628.334	0.579	N/A	1000	171	Tanh	SoftMax
SGD	crx	895.66	0.453	N/A	1000	1000	SoftRelu	SoftMax
SGD	crx	90.021	0.453	N/A	1000	200	SoftRelu	SoftMax
SGD	crx	312.297	0.453	N/A	1000	1000	Relu	SoftMax
SGD	crx	843.163	0.453	N/A	1000	141	Relu	SoftMax
Adadelta	ecoli	716.777	0.274	N/A	1000	1000	Tanh	SoftMax
Adadelta	ecoli	491.884	0.0774	N/A	1000	86	Tanh	SoftMax
Adadelta	ecoli	455.136	0.384	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	ecoli	622.481	0.179	N/A	1000	89	SoftRelu	SoftMax
Adadelta	ecoli	221.342	0.185	N/A	1000	1000	Relu	SoftMax
Adadelta	ecoli	512.212	0.0655	N/A	1000	93	Relu	SoftMax
Adagrad	ecoli	655.466	0.554	N/A	1000	1000	Tanh	SoftMax
Adagrad	ecoli	478.477	0.211	N/A	1000	86	Tanh	SoftMax
Adagrad	ecoli	326.668	0.336	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	ecoli	645.846	0.0744	N/A	1000	89	SoftRelu	SoftMax
Adagrad	ecoli	243.698	0.354	N/A	1000	1000	Relu	SoftMax
Adagrad	ecoli	519.194	0.182	N/A	1000	93	Relu	SoftMax
Adam	ecoli	718.856	0.792	N/A	1000	1000	Tanh	SoftMax

Table D.14: All CSEEM Results of classification problems (14/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	ecoli	551.526	0.768	N/A	1000	86	Tanh	SoftMax
Adam	ecoli	481.948	0.759	N/A	1000	1000	SoftRelu	SoftMax
Adam	ecoli	658.806	0.667	N/A	1000	89	SoftRelu	SoftMax
Adam	ecoli	298.772	0.717	N/A	1000	1000	Relu	SoftMax
Adam	ecoli	560.454	0.592	N/A	1000	93	Relu	SoftMax
CSEEM	ecoli	154.999	0.854	8	N/A	61	Tanh	ClipRound
CSEEM	ecoli	60.0	0.893	8	N/A	82	SoftRelu	ClipRound
CSEEM	ecoli	276.998	0.914	8	N/A	101	Relu	ClipRound
CSEEM	ecoli	275.999	0.905	16	N/A	86	Tanh	ClipRound
CSEEM	ecoli	112.997	0.899	16	N/A	89	SoftRelu	ClipRound
CSEEM	ecoli	634.99	0.905	16	N/A	93	Relu	ClipRound
CSEEM	ecoli	891.999	0.905	32	N/A	86	Tanh	ClipRound
CSEEM	ecoli	463.0	0.914	32	N/A	105	SoftRelu	ClipRound
CSEEM	ecoli	839.0	0.887	32	N/A	81	Relu	ClipRound
RMSprop	ecoli	615.151	0.804	N/A	1000	1000	Tanh	SoftMax
RMSprop	ecoli	479.271	0.747	N/A	1000	86	Tanh	SoftMax
RMSprop	ecoli	412.549	0.735	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	ecoli	653.862	0.634	N/A	1000	89	SoftRelu	SoftMax
RMSprop	ecoli	30.202	0.78	N/A	1000	1000	Relu	SoftMax
RMSprop	ecoli	554.837	0.72	N/A	1000	93	Relu	SoftMax
SGD	ecoli	650.825	0.551	N/A	1000	1000	Tanh	SoftMax
SGD	ecoli	434.379	0.298	N/A	1000	86	Tanh	SoftMax
SGD	ecoli	440.608	0.467	N/A	1000	1000	SoftRelu	SoftMax
SGD	ecoli	579.398	0.182	N/A	1000	89	SoftRelu	SoftMax
SGD	ecoli	316.267	0.318	N/A	1000	1000	Relu	SoftMax
SGD	ecoli	506.606	0.101	N/A	1000	93	Relu	SoftMax
Adadelta	flare	716.543	0.297	N/A	1000	1000	Tanh	SoftMax
Adadelta	flare	184.272	0.361	N/A	1000	259	Tanh	SoftMax

Table D.15: All CSEEM Results of classification problems (15/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	flare	305.778	0.207	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	flare	429.302	0.238	N/A	1000	278	SoftRelu	SoftMax
Adadelta	flare	931.724	0.115	N/A	1000	1000	Relu	SoftMax
Adadelta	flare	674.846	0.312	N/A	1000	290	Relu	SoftMax
Adagrad	flare	627.96	0.283	N/A	1000	1000	Tanh	SoftMax
Adagrad	flare	107.045	0.137	N/A	1000	259	Tanh	SoftMax
Adagrad	flare	340.261	0.317	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	flare	374.796	0.291	N/A	1000	278	SoftRelu	SoftMax
Adagrad	flare	357.334	0.123	N/A	1000	1000	Relu	SoftMax
Adagrad	flare	621.763	0.0929	N/A	1000	290	Relu	SoftMax
Adam	flare	718.998	0.451	N/A	1000	1000	Tanh	SoftMax
Adam	flare	264.224	0.59	N/A	1000	259	Tanh	SoftMax
Adam	flare	441.728	0.421	N/A	1000	1000	SoftRelu	SoftMax
Adam	flare	381.645	0.447	N/A	1000	278	SoftRelu	SoftMax
Adam	flare	445.188	0.564	N/A	1000	1000	Relu	SoftMax
Adam	flare	772.559	0.558	N/A	1000	290	Relu	SoftMax
CSEEM	flare	479.0	0.626	8	N/A	74	Tanh	ClipRound
CSEEM	flare	189.0	0.808	8	N/A	245	SoftRelu	ClipRound
CSEEM	flare	188.998	0.82	8	N/A	272	Relu	ClipRound
CSEEM	flare	763.0	0.816	16	N/A	259	Tanh	ClipRound
CSEEM	flare	822.035	0.816	16	N/A	278	SoftRelu	ClipRound
CSEEM	flare	503.999	0.823	16	N/A	290	Relu	ClipRound
CSEEM	flare	603.508	0.818	32	N/A	264	Tanh	ClipRound
CSEEM	flare	420.001	0.824	32	N/A	268	SoftRelu	ClipRound
CSEEM	flare	12.0	0.826	32	N/A	299	Relu	ClipRound
RMSprop	flare	519.653	0.447	N/A	1000	1000	Tanh	SoftMax
RMSprop	flare	519.628	0.458	N/A	1000	259	Tanh	SoftMax
RMSprop	flare	698.545	0.437	N/A	1000	1000	SoftRelu	SoftMax

Table D.16: All CSEEM Results of classification problems (16/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	flare	276.55	0.425	N/A	1000	278	SoftRelu	SoftMax
RMSprop	flare	720.817	0.565	N/A	1000	1000	Relu	SoftMax
RMSprop	flare	766.38	0.548	N/A	1000	290	Relu	SoftMax
SGD	flare	616.898	0.176	N/A	1000	1000	Tanh	SoftMax
SGD	flare	195.305	0.126	N/A	1000	259	Tanh	SoftMax
SGD	flare	223.006	0.132	N/A	1000	1000	SoftRelu	SoftMax
SGD	flare	203.635	0.199	N/A	1000	278	SoftRelu	SoftMax
SGD	flare	822.521	0.0816	N/A	1000	1000	Relu	SoftMax
SGD	flare	644.326	0.307	N/A	1000	290	Relu	SoftMax
Adadelta	german	604.745	0.572	N/A	1000	1000	Tanh	SoftMax
Adadelta	german	105.625	0.584	N/A	1000	382	Tanh	SoftMax
Adadelta	german	99.649	0.7	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	german	511.374	0.7	N/A	1000	342	SoftRelu	SoftMax
Adadelta	german	161.356	0.7	N/A	1000	1000	Relu	SoftMax
Adadelta	german	64.909	0.7	N/A	1000	390	Relu	SoftMax
Adagrad	german	484.154	0.593	N/A	1000	1000	Tanh	SoftMax
Adagrad	german	130.11	0.586	N/A	1000	382	Tanh	SoftMax
Adagrad	german	67.164	0.314	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	german	494.748	0.7	N/A	1000	342	SoftRelu	SoftMax
Adagrad	german	167.085	0.7	N/A	1000	1000	Relu	SoftMax
Adagrad	german	70.502	0.7	N/A	1000	390	Relu	SoftMax
Adam	german	604.305	0.567	N/A	1000	1000	Tanh	SoftMax
Adam	german	224.532	0.657	N/A	1000	382	Tanh	SoftMax
Adam	german	53.489	0.7	N/A	1000	1000	SoftRelu	SoftMax
Adam	german	591.077	0.7	N/A	1000	342	SoftRelu	SoftMax
Adam	german	163.921	0.7	N/A	1000	1000	Relu	SoftMax
Adam	german	122.165	0.7	N/A	1000	390	Relu	SoftMax
CSEEM	german	266.0	0.869	8	N/A	312	Tanh	ClipRound

Table D.17: All CSEEM Results of classification problems (17/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	german	443.001	0.93	8	N/A	528	SoftRelu	ClipRound
CSEEM	german	933.0	0.898	8	N/A	389	Relu	ClipRound
CSEEM	german	856.0	0.892	16	N/A	382	Tanh	ClipRound
CSEEM	german	858.009	0.885	16	N/A	342	SoftRelu	ClipRound
CSEEM	german	286.0	0.903	16	N/A	390	Relu	ClipRound
CSEEM	german	275.0	0.876	32	N/A	347	Tanh	ClipRound
CSEEM	german	439.001	0.879	32	N/A	302	SoftRelu	ClipRound
CSEEM	german	204.001	0.897	32	N/A	348	Relu	ClipRound
RMSprop	german	300.001	0.516	N/A	1000	1000	Tanh	SoftMax
RMSprop	german	282.609	0.392	N/A	1000	382	Tanh	SoftMax
RMSprop	german	112.004	0.7	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	german	590.995	0.7	N/A	1000	342	SoftRelu	SoftMax
RMSprop	german	613.92	0.7	N/A	1000	1000	Relu	SoftMax
RMSprop	german	156.269	0.7	N/A	1000	390	Relu	SoftMax
SGD	german	544.147	0.592	N/A	1000	1000	Tanh	SoftMax
SGD	german	187.348	0.583	N/A	1000	382	Tanh	SoftMax
SGD	german	113.744	0.314	N/A	1000	1000	SoftRelu	SoftMax
SGD	german	497.764	0.7	N/A	1000	342	SoftRelu	SoftMax
SGD	german	75.586	0.7	N/A	1000	1000	Relu	SoftMax
SGD	german	89.438	0.698	N/A	1000	390	Relu	SoftMax
Adadelta	glass	958.947	0.15	N/A	1000	1000	Tanh	SoftMax
Adadelta	glass	441.655	0.0981	N/A	1000	93	Tanh	SoftMax
Adadelta	glass	417.244	0.486	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	glass	570.283	0.192	N/A	1000	86	SoftRelu	SoftMax
Adadelta	glass	752.552	0.318	N/A	1000	1000	Relu	SoftMax
Adadelta	glass	707.545	0.0981	N/A	1000	95	Relu	SoftMax
Adagrad	glass	897.863	0.229	N/A	1000	1000	Tanh	SoftMax
Adagrad	glass	421.42	0.407	N/A	1000	93	Tanh	SoftMax

Table D.18: All CSEEM Results of classification problems (18/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adagrad	glass	293.314	0.103	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	glass	495.827	0.224	N/A	1000	86	SoftRelu	SoftMax
Adagrad	glass	749.535	0.173	N/A	1000	1000	Relu	SoftMax
Adagrad	glass	623.172	0.425	N/A	1000	95	Relu	SoftMax
Adam	glass	956.754	0.262	N/A	1000	1000	Tanh	SoftMax
Adam	glass	479.915	0.35	N/A	1000	93	Tanh	SoftMax
Adam	glass	390.517	0.327	N/A	1000	1000	SoftRelu	SoftMax
Adam	glass	565.815	0.327	N/A	1000	86	SoftRelu	SoftMax
Adam	glass	935.199	0.327	N/A	1000	1000	Relu	SoftMax
Adam	glass	696.747	0.327	N/A	1000	95	Relu	SoftMax
CSEEM	glass	92.999	0.79	8	N/A	65	Tanh	ClipRound
CSEEM	glass	66.999	0.86	8	N/A	89	SoftRelu	ClipRound
CSEEM	glass	82.0	0.864	8	N/A	97	Relu	ClipRound
CSEEM	glass	121.998	0.874	16	N/A	93	Tanh	ClipRound
CSEEM	glass	297.001	0.864	16	N/A	86	SoftRelu	ClipRound
CSEEM	glass	230.99	0.864	16	N/A	95	Relu	ClipRound
CSEEM	glass	732.001	0.86	32	N/A	84	Tanh	ClipRound
CSEEM	glass	582.999	0.869	32	N/A	87	SoftRelu	ClipRound
CSEEM	glass	675.0	0.836	32	N/A	77	Relu	ClipRound
RMSprop	glass	25.716	0.224	N/A	1000	1000	Tanh	SoftMax
RMSprop	glass	465.434	0.266	N/A	1000	93	Tanh	SoftMax
RMSprop	glass	519.954	0.327	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	glass	552.781	0.327	N/A	1000	86	SoftRelu	SoftMax
RMSprop	glass	527.521	0.327	N/A	1000	1000	Relu	SoftMax
RMSprop	glass	515.996	0.327	N/A	1000	95	Relu	SoftMax
SGD	glass	856.374	0.505	N/A	1000	1000	Tanh	SoftMax
SGD	glass	397.495	0.173	N/A	1000	93	Tanh	SoftMax
SGD	glass	281.576	0.458	N/A	1000	1000	SoftRelu	SoftMax

Table D.19: All CSEEM Results of classification problems (19/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
SGD	glass	498.149	0.0841	N/A	1000	86	SoftRelu	SoftMax
SGD	glass	932.569	0.463	N/A	1000	1000	Relu	SoftMax
SGD	glass	611.039	0.29	N/A	1000	95	Relu	SoftMax
Adadelta	haberman	722.745	0.578	N/A	1000	1000	Tanh	SoftMax
Adadelta	haberman	447.05	0.507	N/A	1000	95	Tanh	SoftMax
Adadelta	haberman	95.831	0.487	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	haberman	582.56	0.291	N/A	1000	93	SoftRelu	SoftMax
Adadelta	haberman	663.889	0.588	N/A	1000	1000	Relu	SoftMax
Adadelta	haberman	780.792	0.435	N/A	1000	105	Relu	SoftMax
Adagrad	haberman	740.024	0.588	N/A	1000	1000	Tanh	SoftMax
Adagrad	haberman	466.867	0.546	N/A	1000	95	Tanh	SoftMax
Adagrad	haberman	209.242	0.66	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	haberman	557.593	0.686	N/A	1000	93	SoftRelu	SoftMax
Adagrad	haberman	695.185	0.425	N/A	1000	1000	Relu	SoftMax
Adagrad	haberman	756.804	0.575	N/A	1000	105	Relu	SoftMax
Adam	haberman	861.718	0.399	N/A	1000	1000	Tanh	SoftMax
Adam	haberman	482.69	0.735	N/A	1000	95	Tanh	SoftMax
Adam	haberman	351.833	0.477	N/A	1000	1000	SoftRelu	SoftMax
Adam	haberman	608.049	0.265	N/A	1000	93	SoftRelu	SoftMax
Adam	haberman	713.026	0.657	N/A	1000	1000	Relu	SoftMax
Adam	haberman	842.17	0.755	N/A	1000	105	Relu	SoftMax
CSEEM	haberman	178.0	0.873	8	N/A	94	Tanh	ClipRound
CSEEM	haberman	172.999	0.886	8	N/A	105	SoftRelu	ClipRound
CSEEM	haberman	135.0	0.837	8	N/A	65	Relu	ClipRound
CSEEM	haberman	331.0	0.876	16	N/A	95	Tanh	ClipRound
CSEEM	haberman	255.989	0.866	16	N/A	93	SoftRelu	ClipRound
CSEEM	haberman	451.025	0.873	16	N/A	105	Relu	ClipRound
CSEEM	haberman	460.998	0.882	32	N/A	95	Tanh	ClipRound

Table D.20: All CSEEM Results of classification problems (20/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	haberman	19.998	0.892	32	N/A	102	SoftRelu	ClipRound
CSEEM	haberman	680.999	0.889	32	N/A	97	Relu	ClipRound
RMSprop	haberman	711.133	0.265	N/A	1000	1000	Tanh	SoftMax
RMSprop	haberman	472.086	0.742	N/A	1000	95	Tanh	SoftMax
RMSprop	haberman	207.022	0.265	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	haberman	584.842	0.725	N/A	1000	93	SoftRelu	SoftMax
RMSprop	haberman	559.026	0.265	N/A	1000	1000	Relu	SoftMax
RMSprop	haberman	832.155	0.595	N/A	1000	105	Relu	SoftMax
SGD	haberman	721.497	0.752	N/A	1000	1000	Tanh	SoftMax
SGD	haberman	403.067	0.745	N/A	1000	95	Tanh	SoftMax
SGD	haberman	124.787	0.765	N/A	1000	1000	SoftRelu	SoftMax
SGD	haberman	520.374	0.719	N/A	1000	93	SoftRelu	SoftMax
SGD	haberman	664.217	0.765	N/A	1000	1000	Relu	SoftMax
SGD	haberman	765.996	0.578	N/A	1000	105	Relu	SoftMax
Adadelta	hayes_roth	838.142	0.325	N/A	1000	1000	Tanh	SoftMax
Adadelta	hayes_roth	378.34	0.381	N/A	1000	49	Tanh	SoftMax
Adadelta	hayes_roth	67.79	0.45	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	hayes_roth	456.8	0.287	N/A	1000	54	SoftRelu	SoftMax
Adadelta	hayes_roth	131.922	0.194	N/A	1000	1000	Relu	SoftMax
Adadelta	hayes_roth	425.436	0.338	N/A	1000	39	Relu	SoftMax
Adagrad	hayes_roth	556.207	0.431	N/A	1000	1000	Tanh	SoftMax
Adagrad	hayes_roth	337.7	0.256	N/A	1000	49	Tanh	SoftMax
Adagrad	hayes_roth	9.209	0.419	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	hayes_roth	406.602	0.463	N/A	1000	54	SoftRelu	SoftMax
Adagrad	hayes_roth	111.014	0.475	N/A	1000	1000	Relu	SoftMax
Adagrad	hayes_roth	407.25	0.138	N/A	1000	39	Relu	SoftMax
Adam	hayes_roth	680.951	0.663	N/A	1000	1000	Tanh	SoftMax
Adam	hayes_roth	407.313	0.581	N/A	1000	49	Tanh	SoftMax

Table D.21: All CSEEM Results of classification problems (21/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	hayes_roth	102.984	0.406	N/A	1000	1000	SoftRelu	SoftMax
Adam	hayes_roth	460.121	0.619	N/A	1000	54	SoftRelu	SoftMax
Adam	hayes_roth	267.459	0.613	N/A	1000	1000	Relu	SoftMax
Adam	hayes_roth	430.182	0.525	N/A	1000	39	Relu	SoftMax
CSEEM	hayes_roth	23.0	0.894	8	N/A	60	Tanh	ClipRound
CSEEM	hayes_roth	60.0	0.875	8	N/A	55	SoftRelu	ClipRound
CSEEM	hayes_roth	32.999	0.9	8	N/A	47	Relu	ClipRound
CSEEM	hayes_roth	52.999	0.894	16	N/A	49	Tanh	ClipRound
CSEEM	hayes_roth	35.0	0.863	16	N/A	54	SoftRelu	ClipRound
CSEEM	hayes_roth	23.998	0.869	16	N/A	39	Relu	ClipRound
CSEEM	hayes_roth	91.001	0.831	32	N/A	38	Tanh	ClipRound
CSEEM	hayes_roth	124.0	0.881	32	N/A	43	SoftRelu	ClipRound
CSEEM	hayes_roth	148.0	0.881	32	N/A	50	Relu	ClipRound
RMSprop	hayes_roth	745.754	0.575	N/A	1000	1000	Tanh	SoftMax
RMSprop	hayes_roth	391.927	0.581	N/A	1000	49	Tanh	SoftMax
RMSprop	hayes_roth	216.897	0.406	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	hayes_roth	466.57	0.65	N/A	1000	54	SoftRelu	SoftMax
RMSprop	hayes_roth	292.648	0.65	N/A	1000	1000	Relu	SoftMax
RMSprop	hayes_roth	506.08	0.506	N/A	1000	39	Relu	SoftMax
SGD	hayes_roth	564.247	0.525	N/A	1000	1000	Tanh	SoftMax
SGD	hayes_roth	339.889	0.419	N/A	1000	49	Tanh	SoftMax
SGD	hayes_roth	965.005	0.475	N/A	1000	1000	SoftRelu	SoftMax
SGD	hayes_roth	442.91	0.25	N/A	1000	54	SoftRelu	SoftMax
SGD	hayes_roth	143.302	0.488	N/A	1000	1000	Relu	SoftMax
SGD	hayes_roth	373.072	0.319	N/A	1000	39	Relu	SoftMax
Adadelta	heart	986.197	0.648	N/A	1000	1000	Tanh	SoftMax
Adadelta	heart	408.705	0.5	N/A	1000	56	Tanh	SoftMax
Adadelta	heart	262.454	0.622	N/A	1000	1000	SoftRelu	SoftMax

Table D.22: All CSEEM Results of classification problems (22/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	heart	560.369	0.637	N/A	1000	85	SoftRelu	SoftMax
Adadelta	heart	528.067	0.407	N/A	1000	1000	Relu	SoftMax
Adadelta	heart	608.362	0.459	N/A	1000	76	Relu	SoftMax
Adagrad	heart	60.657	0.707	N/A	1000	1000	Tanh	SoftMax
Adagrad	heart	376.705	0.448	N/A	1000	56	Tanh	SoftMax
Adagrad	heart	123.548	0.73	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	heart	538.278	0.489	N/A	1000	85	SoftRelu	SoftMax
Adagrad	heart	568.979	0.452	N/A	1000	1000	Relu	SoftMax
Adagrad	heart	589.193	0.563	N/A	1000	76	Relu	SoftMax
Adam	heart	161.036	0.763	N/A	1000	1000	Tanh	SoftMax
Adam	heart	518.636	0.811	N/A	1000	56	Tanh	SoftMax
Adam	heart	293.08	0.748	N/A	1000	1000	SoftRelu	SoftMax
Adam	heart	609.328	0.567	N/A	1000	85	SoftRelu	SoftMax
Adam	heart	724.217	0.77	N/A	1000	1000	Relu	SoftMax
Adam	heart	663.951	0.744	N/A	1000	76	Relu	SoftMax
CSEEM	heart	155.999	0.915	8	N/A	82	Tanh	ClipRound
CSEEM	heart	148.998	0.933	8	N/A	109	SoftRelu	ClipRound
CSEEM	heart	104.999	0.937	8	N/A	98	Relu	ClipRound
CSEEM	heart	170.0	0.907	16	N/A	56	Tanh	ClipRound
CSEEM	heart	156.008	0.926	16	N/A	85	SoftRelu	ClipRound
CSEEM	heart	451.999	0.922	16	N/A	76	Relu	ClipRound
CSEEM	heart	648.999	0.915	32	N/A	64	Tanh	ClipRound
CSEEM	heart	861.999	0.926	32	N/A	82	SoftRelu	ClipRound
CSEEM	heart	176.0	0.911	32	N/A	79	Relu	ClipRound
RMSprop	heart	631.769	0.774	N/A	1000	1000	Tanh	SoftMax
RMSprop	heart	426.643	0.7	N/A	1000	56	Tanh	SoftMax
RMSprop	heart	463.244	0.804	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	heart	569.374	0.444	N/A	1000	85	SoftRelu	SoftMax

Table D.23: All CSEEM Results of classification problems (23/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	heart	850.077	0.793	N/A	1000	1000	Relu	SoftMax
RMSprop	heart	664.092	0.556	N/A	1000	76	Relu	SoftMax
SGD	heart	41.321	0.663	N/A	1000	1000	Tanh	SoftMax
SGD	heart	369.235	0.604	N/A	1000	56	Tanh	SoftMax
SGD	heart	90.47	0.7	N/A	1000	1000	SoftRelu	SoftMax
SGD	heart	514.678	0.663	N/A	1000	85	SoftRelu	SoftMax
SGD	heart	666.422	0.73	N/A	1000	1000	Relu	SoftMax
SGD	heart	611.293	0.456	N/A	1000	76	Relu	SoftMax
Adadelta	hepatitis	860.948	0.65	N/A	1000	1000	Tanh	SoftMax
Adadelta	hepatitis	366.305	0.312	N/A	1000	13	Tanh	SoftMax
Adadelta	hepatitis	772.298	0.738	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	hepatitis	395.245	0.7	N/A	1000	17	SoftRelu	SoftMax
Adadelta	hepatitis	658.039	0.188	N/A	1000	1000	Relu	SoftMax
Adadelta	hepatitis	402.01	0.162	N/A	1000	25	Relu	SoftMax
Adagrad	hepatitis	852.871	0.812	N/A	1000	1000	Tanh	SoftMax
Adagrad	hepatitis	302.352	0.525	N/A	1000	13	Tanh	SoftMax
Adagrad	hepatitis	720.494	0.812	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	hepatitis	380.278	0.775	N/A	1000	17	SoftRelu	SoftMax
Adagrad	hepatitis	624.569	0.237	N/A	1000	1000	Relu	SoftMax
Adagrad	hepatitis	331.837	0.162	N/A	1000	25	Relu	SoftMax
Adam	hepatitis	923.692	0.9	N/A	1000	1000	Tanh	SoftMax
Adam	hepatitis	370.651	0.85	N/A	1000	13	Tanh	SoftMax
Adam	hepatitis	769.659	0.85	N/A	1000	1000	SoftRelu	SoftMax
Adam	hepatitis	416.8	0.8	N/A	1000	17	SoftRelu	SoftMax
Adam	hepatitis	675.672	0.887	N/A	1000	1000	Relu	SoftMax
Adam	hepatitis	399.828	0.162	N/A	1000	25	Relu	SoftMax
CSEEM	hepatitis	11.999	0.95	8	N/A	14	Tanh	ClipRound
CSEEM	hepatitis	9.002	0.912	8	N/A	17	SoftRelu	ClipRound

Table D.24: All CSEEM Results of classification problems (24/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	hepatitis	5.999	0.887	8	N/A	7	Relu	ClipRound
CSEEM	hepatitis	24.999	0.95	16	N/A	13	Tanh	ClipRound
CSEEM	hepatitis	21.0	0.95	16	N/A	17	SoftRelu	ClipRound
CSEEM	hepatitis	19.993	0.988	16	N/A	25	Relu	ClipRound
CSEEM	hepatitis	35.999	0.95	32	N/A	23	Tanh	ClipRound
CSEEM	hepatitis	36.999	0.963	32	N/A	20	SoftRelu	ClipRound
CSEEM	hepatitis	72.999	0.975	32	N/A	22	Relu	ClipRound
RMSprop	hepatitis	631.008	0.8	N/A	1000	1000	Tanh	SoftMax
RMSprop	hepatitis	351.807	0.812	N/A	1000	13	Tanh	SoftMax
RMSprop	hepatitis	886.219	0.875	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	hepatitis	445.496	0.162	N/A	1000	17	SoftRelu	SoftMax
RMSprop	hepatitis	774.028	0.837	N/A	1000	1000	Relu	SoftMax
RMSprop	hepatitis	386.06	0.162	N/A	1000	25	Relu	SoftMax
SGD	hepatitis	877.409	0.8	N/A	1000	1000	Tanh	SoftMax
SGD	hepatitis	288.47	0.4	N/A	1000	13	Tanh	SoftMax
SGD	hepatitis	703.688	0.837	N/A	1000	1000	SoftRelu	SoftMax
SGD	hepatitis	336.602	0.375	N/A	1000	17	SoftRelu	SoftMax
SGD	hepatitis	553.17	0.812	N/A	1000	1000	Relu	SoftMax
SGD	hepatitis	305.213	0.812	N/A	1000	25	Relu	SoftMax
Adadelta	housevotes	819.648	0.284	N/A	1000	1000	Tanh	SoftMax
Adadelta	housevotes	421.791	0.284	N/A	1000	55	Tanh	SoftMax
Adadelta	housevotes	716.063	0.293	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	housevotes	523.226	0.871	N/A	1000	32	SoftRelu	SoftMax
Adadelta	housevotes	410.512	0.397	N/A	1000	1000	Relu	SoftMax
Adadelta	housevotes	422.861	0.371	N/A	1000	29	Relu	SoftMax
Adagrad	housevotes	979.702	0.866	N/A	1000	1000	Tanh	SoftMax
Adagrad	housevotes	377.844	0.716	N/A	1000	55	Tanh	SoftMax
Adagrad	housevotes	386.007	0.634	N/A	1000	1000	SoftRelu	SoftMax

Table D.25: All CSEEM Results of classification problems (25/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adagrad	housevotes	948.853	0.267	N/A	1000	32	SoftRelu	SoftMax
Adagrad	housevotes	368.266	0.457	N/A	1000	1000	Relu	SoftMax
Adagrad	housevotes	409.445	0.164	N/A	1000	29	Relu	SoftMax
Adam	housevotes	16.644	0.957	N/A	1000	1000	Tanh	SoftMax
Adam	housevotes	448.907	0.935	N/A	1000	55	Tanh	SoftMax
Adam	housevotes	454.382	0.953	N/A	1000	1000	SoftRelu	SoftMax
Adam	housevotes	494.058	0.922	N/A	1000	32	SoftRelu	SoftMax
Adam	housevotes	484.728	0.974	N/A	1000	1000	Relu	SoftMax
Adam	housevotes	444.087	0.94	N/A	1000	29	Relu	SoftMax
CSEEM	housevotes	34.999	0.974	8	N/A	53	Tanh	ClipRound
CSEEM	housevotes	65.998	0.978	8	N/A	44	SoftRelu	ClipRound
CSEEM	housevotes	74.999	0.978	8	N/A	43	Relu	ClipRound
CSEEM	housevotes	137.999	0.987	16	N/A	55	Tanh	ClipRound
CSEEM	housevotes	157.041	0.974	16	N/A	32	SoftRelu	ClipRound
CSEEM	housevotes	201.999	0.978	16	N/A	29	Relu	ClipRound
CSEEM	housevotes	218.999	0.991	32	N/A	40	Tanh	ClipRound
CSEEM	housevotes	115.0	0.978	32	N/A	29	SoftRelu	ClipRound
CSEEM	housevotes	352.0	0.987	32	N/A	50	Relu	ClipRound
RMSprop	housevotes	964.0	0.961	N/A	1000	1000	Tanh	SoftMax
RMSprop	housevotes	469.195	0.97	N/A	1000	55	Tanh	SoftMax
RMSprop	housevotes	691.512	0.974	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	housevotes	478.623	0.974	N/A	1000	32	SoftRelu	SoftMax
RMSprop	housevotes	648.017	0.966	N/A	1000	1000	Relu	SoftMax
RMSprop	housevotes	688.902	0.974	N/A	1000	29	Relu	SoftMax
SGD	housevotes	83.312	0.875	N/A	1000	1000	Tanh	SoftMax
SGD	housevotes	362.008	0.599	N/A	1000	55	Tanh	SoftMax
SGD	housevotes	356.487	0.927	N/A	1000	1000	SoftRelu	SoftMax
SGD	housevotes	396.467	0.763	N/A	1000	32	SoftRelu	SoftMax

Table D.26: All CSEEM Results of classification problems (26/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
SGD	housevotes	347.561	0.888	N/A	1000	1000	Relu	SoftMax
SGD	housevotes	539.797	0.483	N/A	1000	29	Relu	SoftMax
Adadelta	ionosphere	782.287	0.607	N/A	1000	1000	Tanh	SoftMax
Adadelta	ionosphere	546.366	0.601	N/A	1000	96	Tanh	SoftMax
Adadelta	ionosphere	777.349	0.581	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	ionosphere	971.337	0.627	N/A	1000	90	SoftRelu	SoftMax
Adadelta	ionosphere	190.406	0.396	N/A	1000	1000	Relu	SoftMax
Adadelta	ionosphere	6.248	0.595	N/A	1000	74	Relu	SoftMax
Adagrad	ionosphere	761.688	0.439	N/A	1000	1000	Tanh	SoftMax
Adagrad	ionosphere	524.613	0.521	N/A	1000	96	Tanh	SoftMax
Adagrad	ionosphere	771.594	0.558	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	ionosphere	866.364	0.342	N/A	1000	90	SoftRelu	SoftMax
Adagrad	ionosphere	971.966	0.416	N/A	1000	1000	Relu	SoftMax
Adagrad	ionosphere	290.814	0.359	N/A	1000	74	Relu	SoftMax
Adam	ionosphere	39.358	0.866	N/A	1000	1000	Tanh	SoftMax
Adam	ionosphere	557.067	0.567	N/A	1000	96	Tanh	SoftMax
Adam	ionosphere	751.875	0.852	N/A	1000	1000	SoftRelu	SoftMax
Adam	ionosphere	937.362	0.826	N/A	1000	90	SoftRelu	SoftMax
Adam	ionosphere	202.927	0.906	N/A	1000	1000	Relu	SoftMax
Adam	ionosphere	93.869	0.806	N/A	1000	74	Relu	SoftMax
CSEEM	ionosphere	104.001	0.969	8	N/A	81	Tanh	ClipRound
CSEEM	ionosphere	115.001	0.972	8	N/A	92	SoftRelu	ClipRound
CSEEM	ionosphere	182.001	0.972	8	N/A	67	Relu	ClipRound
CSEEM	ionosphere	453.0	0.98	16	N/A	96	Tanh	ClipRound
CSEEM	ionosphere	574.001	0.972	16	N/A	90	SoftRelu	ClipRound
CSEEM	ionosphere	300.002	0.966	16	N/A	74	Relu	ClipRound
CSEEM	ionosphere	161.0	0.969	32	N/A	87	Tanh	ClipRound
CSEEM	ionosphere	483.0	0.969	32	N/A	88	SoftRelu	ClipRound

Table D.27: All CSEEM Results of classification problems (27/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	ionosphere	715.506	0.977	32	N/A	87	Relu	ClipRound
RMSprop	ionosphere	260.005	0.872	N/A	1000	1000	Tanh	SoftMax
RMSprop	ionosphere	556.378	0.923	N/A	1000	96	Tanh	SoftMax
RMSprop	ionosphere	999.515	0.883	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	ionosphere	939.475	0.889	N/A	1000	90	SoftRelu	SoftMax
RMSprop	ionosphere	341.896	0.923	N/A	1000	1000	Relu	SoftMax
RMSprop	ionosphere	58.536	0.889	N/A	1000	74	Relu	SoftMax
SGD	ionosphere	905.537	0.806	N/A	1000	1000	Tanh	SoftMax
SGD	ionosphere	494.268	0.732	N/A	1000	96	Tanh	SoftMax
SGD	ionosphere	738.356	0.678	N/A	1000	1000	SoftRelu	SoftMax
SGD	ionosphere	910.227	0.274	N/A	1000	90	SoftRelu	SoftMax
SGD	ionosphere	33.76	0.661	N/A	1000	1000	Relu	SoftMax
SGD	ionosphere	963.812	0.59	N/A	1000	74	Relu	SoftMax
Adadelta	iris	954.176	0.307	N/A	1000	1000	Tanh	SoftMax
Adadelta	iris	347.814	0.04	N/A	1000	19	Tanh	SoftMax
Adadelta	iris	891.041	0.02	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	iris	539.502	0.0467	N/A	1000	21	SoftRelu	SoftMax
Adadelta	iris	882.339	0.733	N/A	1000	1000	Relu	SoftMax
Adadelta	iris	342.527	0.127	N/A	1000	17	Relu	SoftMax
Adagrad	iris	931.374	0.673	N/A	1000	1000	Tanh	SoftMax
Adagrad	iris	347.08	0	N/A	1000	19	Tanh	SoftMax
Adagrad	iris	867.238	0.307	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	iris	500.264	0.42	N/A	1000	21	SoftRelu	SoftMax
Adagrad	iris	824.668	0.813	N/A	1000	1000	Relu	SoftMax
Adagrad	iris	330.725	0.427	N/A	1000	17	Relu	SoftMax
Adam	iris	16.092	0.98	N/A	1000	1000	Tanh	SoftMax
Adam	iris	377.216	0.98	N/A	1000	19	Tanh	SoftMax
Adam	iris	37.481	0.973	N/A	1000	1000	SoftRelu	SoftMax

Table D.28: All CSEEM Results of classification problems (28/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	iris	555.012	0.927	N/A	1000	21	SoftRelu	SoftMax
Adam	iris	938.134	0.973	N/A	1000	1000	Relu	SoftMax
Adam	iris	360.172	0.86	N/A	1000	17	Relu	SoftMax
CSEEM	iris	19.999	0.98	8	N/A	16	Tanh	ClipRound
CSEEM	iris	15.0	0.993	8	N/A	19	SoftRelu	ClipRound
CSEEM	iris	5.0	0.953	8	N/A	10	Relu	ClipRound
CSEEM	iris	30.998	0.987	16	N/A	19	Tanh	ClipRound
CSEEM	iris	32.0	0.987	16	N/A	21	SoftRelu	ClipRound
CSEEM	iris	67.006	0.973	16	N/A	17	Relu	ClipRound
CSEEM	iris	71.999	0.993	32	N/A	18	Tanh	ClipRound
CSEEM	iris	43.999	0.993	32	N/A	25	SoftRelu	ClipRound
CSEEM	iris	48.998	0.993	32	N/A	20	Relu	ClipRound
RMSprop	iris	709.0	0.667	N/A	1000	1000	Tanh	SoftMax
RMSprop	iris	365.682	0.987	N/A	1000	19	Tanh	SoftMax
RMSprop	iris	282.015	0.987	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	iris	564.703	0.98	N/A	1000	21	SoftRelu	SoftMax
RMSprop	iris	84.933	0.973	N/A	1000	1000	Relu	SoftMax
RMSprop	iris	367.841	0.967	N/A	1000	17	Relu	SoftMax
SGD	iris	930.409	0.853	N/A	1000	1000	Tanh	SoftMax
SGD	iris	294.857	0.64	N/A	1000	19	Tanh	SoftMax
SGD	iris	910.787	0.747	N/A	1000	1000	SoftRelu	SoftMax
SGD	iris	468.289	0.54	N/A	1000	21	SoftRelu	SoftMax
SGD	iris	809.937	0.893	N/A	1000	1000	Relu	SoftMax
SGD	iris	297.053	0.58	N/A	1000	17	Relu	SoftMax
Adadelta	led7digit	317.758	0.08	N/A	1000	1000	Tanh	SoftMax
Adadelta	led7digit	540.611	0.084	N/A	1000	69	Tanh	SoftMax
Adadelta	led7digit	554.981	0.17	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	led7digit	764.904	0.018	N/A	1000	87	SoftRelu	SoftMax

Table D.29: All CSEEM Results of classification problems (29/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	led7digit	289.301	0.16	N/A	1000	1000	Relu	SoftMax
Adadelta	led7digit	83.495	0.16	N/A	1000	100	Relu	SoftMax
Adagrad	led7digit	216.96	0.228	N/A	1000	1000	Tanh	SoftMax
Adagrad	led7digit	510.741	0.254	N/A	1000	69	Tanh	SoftMax
Adagrad	led7digit	664.454	0.04	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	led7digit	767.198	0.034	N/A	1000	87	SoftRelu	SoftMax
Adagrad	led7digit	62.671	0.05	N/A	1000	1000	Relu	SoftMax
Adagrad	led7digit	79.828	0.164	N/A	1000	100	Relu	SoftMax
Adam	led7digit	352.674	0.73	N/A	1000	1000	Tanh	SoftMax
Adam	led7digit	565.299	0.708	N/A	1000	69	Tanh	SoftMax
Adam	led7digit	804.796	0.734	N/A	1000	1000	SoftRelu	SoftMax
Adam	led7digit	794.493	0.724	N/A	1000	87	SoftRelu	SoftMax
Adam	led7digit	435.874	0.722	N/A	1000	1000	Relu	SoftMax
Adam	led7digit	129.31	0.726	N/A	1000	100	Relu	SoftMax
CSEEM	led7digit	207.0	0.746	8	N/A	69	Tanh	ClipRound
CSEEM	led7digit	593.999	0.76	8	N/A	80	SoftRelu	ClipRound
CSEEM	led7digit	357.0	0.77	8	N/A	88	Relu	ClipRound
CSEEM	led7digit	130.999	0.77	16	N/A	69	Tanh	ClipRound
CSEEM	led7digit	457.0	0.762	16	N/A	87	SoftRelu	ClipRound
CSEEM	led7digit	527.992	0.768	16	N/A	100	Relu	ClipRound
CSEEM	led7digit	257.998	0.766	32	N/A	75	Tanh	ClipRound
CSEEM	led7digit	533.0	0.766	32	N/A	71	SoftRelu	ClipRound
CSEEM	led7digit	397.0	0.764	32	N/A	69	Relu	ClipRound
RMSprop	led7digit	53.0	0.718	N/A	1000	1000	Tanh	SoftMax
RMSprop	led7digit	540.375	0.73	N/A	1000	69	Tanh	SoftMax
RMSprop	led7digit	413.501	0.712	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	led7digit	903.568	0.704	N/A	1000	87	SoftRelu	SoftMax
RMSprop	led7digit	632.029	0.72	N/A	1000	1000	Relu	SoftMax

Table D.30: All CSEEM Results of classification problems (30/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	led7digit	615.8	0.734	N/A	1000	100	Relu	SoftMax
SGD	led7digit	409.969	0.182	N/A	1000	1000	Tanh	SoftMax
SGD	led7digit	536.799	0.158	N/A	1000	69	Tanh	SoftMax
SGD	led7digit	6.607	0.224	N/A	1000	1000	SoftRelu	SoftMax
SGD	led7digit	739.653	0.05	N/A	1000	87	SoftRelu	SoftMax
SGD	led7digit	194.291	0.158	N/A	1000	1000	Relu	SoftMax
SGD	led7digit	401.925	0.044	N/A	1000	100	Relu	SoftMax
Adadelta	lymphography	845.839	0.358	N/A	1000	1000	Tanh	SoftMax
Adadelta	lymphography	383.903	0.243	N/A	1000	35	Tanh	SoftMax
Adadelta	lymphography	866.971	0.209	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	lymphography	531.525	0.243	N/A	1000	38	SoftRelu	SoftMax
Adadelta	lymphography	950.223	0.338	N/A	1000	1000	Relu	SoftMax
Adadelta	lymphography	364.621	0.338	N/A	1000	42	Relu	SoftMax
Adagrad	lymphography	792.235	0.446	N/A	1000	1000	Tanh	SoftMax
Adagrad	lymphography	341.902	0.216	N/A	1000	35	Tanh	SoftMax
Adagrad	lymphography	883.605	0.52	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	lymphography	506.716	0.304	N/A	1000	38	SoftRelu	SoftMax
Adagrad	lymphography	887.486	0.291	N/A	1000	1000	Relu	SoftMax
Adagrad	lymphography	338.324	0.264	N/A	1000	42	Relu	SoftMax
Adam	lymphography	859.491	0.851	N/A	1000	1000	Tanh	SoftMax
Adam	lymphography	401.023	0.845	N/A	1000	35	Tanh	SoftMax
Adam	lymphography	25.832	0.838	N/A	1000	1000	SoftRelu	SoftMax
Adam	lymphography	551.661	0.905	N/A	1000	38	SoftRelu	SoftMax
Adam	lymphography	945.161	0.865	N/A	1000	1000	Relu	SoftMax
Adam	lymphography	409.578	0.865	N/A	1000	42	Relu	SoftMax
CSEEM	lymphography	17.0	0.912	8	N/A	42	Tanh	ClipRound
CSEEM	lymphography	26.0	0.885	8	N/A	29	SoftRelu	ClipRound
CSEEM	lymphography	42.999	0.953	8	N/A	53	Relu	ClipRound

Table D.31: All CSEEM Results of classification problems (31/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	lymphography	41.001	0.885	16	N/A	35	Tanh	ClipRound
CSEEM	lymphography	39.0	0.892	16	N/A	38	SoftRelu	ClipRound
CSEEM	lymphography	65.993	0.926	16	N/A	42	Relu	ClipRound
CSEEM	lymphography	93.999	0.899	32	N/A	53	Tanh	ClipRound
CSEEM	lymphography	167.0	0.953	32	N/A	50	SoftRelu	ClipRound
CSEEM	lymphography	91.999	0.905	32	N/A	30	Relu	ClipRound
RMSprop	lymphography	808.98	0.804	N/A	1000	1000	Tanh	SoftMax
RMSprop	lymphography	380.45	0.878	N/A	1000	35	Tanh	SoftMax
RMSprop	lymphography	480.994	0.838	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	lymphography	426.309	0.845	N/A	1000	38	SoftRelu	SoftMax
RMSprop	lymphography	237.889	0.811	N/A	1000	1000	Relu	SoftMax
RMSprop	lymphography	393.301	0.878	N/A	1000	42	Relu	SoftMax
SGD	lymphography	767.417	0.561	N/A	1000	1000	Tanh	SoftMax
SGD	lymphography	300.599	0.135	N/A	1000	35	Tanh	SoftMax
SGD	lymphography	954.916	0.493	N/A	1000	1000	SoftRelu	SoftMax
SGD	lymphography	427.233	0.243	N/A	1000	38	SoftRelu	SoftMax
SGD	lymphography	859.094	0.527	N/A	1000	1000	Relu	SoftMax
SGD	lymphography	359.397	0.358	N/A	1000	42	Relu	SoftMax
Adadelta	mammographic	992.053	0.357	N/A	1000	1000	Tanh	SoftMax
Adadelta	mammographic	283.55	0.606	N/A	1000	218	Tanh	SoftMax
Adadelta	mammographic	892.046	0.649	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	mammographic	770.999	0.622	N/A	1000	189	SoftRelu	SoftMax
Adadelta	mammographic	386.574	0.347	N/A	1000	1000	Relu	SoftMax
Adadelta	mammographic	226.761	0.53	N/A	1000	204	Relu	SoftMax
Adagrad	mammographic	54.957	0.773	N/A	1000	1000	Tanh	SoftMax
Adagrad	mammographic	198.946	0.558	N/A	1000	218	Tanh	SoftMax
Adagrad	mammographic	696.472	0.69	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	mammographic	583.042	0.293	N/A	1000	189	SoftRelu	SoftMax

Table D.32: All CSEEM Results of classification problems (32/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adagrad	mammographic	379.399	0.593	N/A	1000	1000	Relu	SoftMax
Adagrad	mammographic	216.722	0.653	N/A	1000	204	Relu	SoftMax
Adam	mammographic	55.826	0.514	N/A	1000	1000	Tanh	SoftMax
Adam	mammographic	315.014	0.767	N/A	1000	218	Tanh	SoftMax
Adam	mammographic	942.511	0.79	N/A	1000	1000	SoftRelu	SoftMax
Adam	mammographic	707.117	0.74	N/A	1000	189	SoftRelu	SoftMax
Adam	mammographic	458.018	0.752	N/A	1000	1000	Relu	SoftMax
Adam	mammographic	265.8	0.689	N/A	1000	204	Relu	SoftMax
CSEEM	mammographic	686.999	0.889	8	N/A	180	Tanh	ClipRound
CSEEM	mammographic	428.999	0.875	8	N/A	165	SoftRelu	ClipRound
CSEEM	mammographic	904.998	0.899	8	N/A	257	Relu	ClipRound
CSEEM	mammographic	294.999	0.894	16	N/A	218	Tanh	ClipRound
CSEEM	mammographic	243.999	0.887	16	N/A	189	SoftRelu	ClipRound
CSEEM	mammographic	692.985	0.894	16	N/A	204	Relu	ClipRound
CSEEM	mammographic	399.0	0.896	32	N/A	229	Tanh	ClipRound
CSEEM	mammographic	24.998	0.886	32	N/A	187	SoftRelu	ClipRound
CSEEM	mammographic	794.999	0.896	32	N/A	223	Relu	ClipRound
RMSprop	mammographic	712.0	0.764	N/A	1000	1000	Tanh	SoftMax
RMSprop	mammographic	836.795	0.743	N/A	1000	218	Tanh	SoftMax
RMSprop	mammographic	694.001	0.71	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	mammographic	678.15	0.648	N/A	1000	189	SoftRelu	SoftMax
RMSprop	mammographic	721.0	0.684	N/A	1000	1000	Relu	SoftMax
RMSprop	mammographic	332.855	0.72	N/A	1000	204	Relu	SoftMax
SGD	mammographic	18.111	0.678	N/A	1000	1000	Tanh	SoftMax
SGD	mammographic	220.364	0.657	N/A	1000	218	Tanh	SoftMax
SGD	mammographic	62.419	0.693	N/A	1000	1000	SoftRelu	SoftMax
SGD	mammographic	540.273	0.704	N/A	1000	189	SoftRelu	SoftMax
SGD	mammographic	466.936	0.686	N/A	1000	1000	Relu	SoftMax

Table D.33: All CSEEM Results of classification problems (33/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
SGD	mammographic	232.223	0.702	N/A	1000	204	Relu	SoftMax
Adadelta	monk_2	932.404	0.535	N/A	1000	1000	Tanh	SoftMax
Adadelta	monk_2	495.298	0.59	N/A	1000	79	Tanh	SoftMax
Adadelta	monk_2	972.331	0.537	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	monk_2	789.207	0.468	N/A	1000	69	SoftRelu	SoftMax
Adadelta	monk_2	910.714	0.417	N/A	1000	1000	Relu	SoftMax
Adadelta	monk_2	532.17	0.449	N/A	1000	53	Relu	SoftMax
Adagrad	monk_2	833.963	0.525	N/A	1000	1000	Tanh	SoftMax
Adagrad	monk_2	532.475	0.572	N/A	1000	79	Tanh	SoftMax
Adagrad	monk_2	947.473	0.521	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	monk_2	542.849	0.572	N/A	1000	69	SoftRelu	SoftMax
Adagrad	monk_2	588.13	0.701	N/A	1000	1000	Relu	SoftMax
Adagrad	monk_2	809.972	0.493	N/A	1000	53	Relu	SoftMax
Adam	monk_2	995.15	0.806	N/A	1000	1000	Tanh	SoftMax
Adam	monk_2	534.89	0.741	N/A	1000	79	Tanh	SoftMax
Adam	monk_2	123.627	0.806	N/A	1000	1000	SoftRelu	SoftMax
Adam	monk_2	738.585	0.722	N/A	1000	69	SoftRelu	SoftMax
Adam	monk_2	1.55	0.806	N/A	1000	1000	Relu	SoftMax
Adam	monk_2	556.256	0.745	N/A	1000	53	Relu	SoftMax
CSEEM	monk_2	152.999	0.981	8	N/A	97	Tanh	ClipRound
CSEEM	monk_2	44.999	0.977	8	N/A	56	SoftRelu	ClipRound
CSEEM	monk_2	75.997	0.979	8	N/A	52	Relu	ClipRound
CSEEM	monk_2	358.999	0.975	16	N/A	79	Tanh	ClipRound
CSEEM	monk_2	463.001	0.988	16	N/A	69	SoftRelu	ClipRound
CSEEM	monk_2	256.999	0.991	16	N/A	53	Relu	ClipRound
CSEEM	monk_2	627.998	0.984	32	N/A	67	Tanh	ClipRound
CSEEM	monk_2	175.0	0.991	32	N/A	64	SoftRelu	ClipRound
CSEEM	monk_2	988.998	0.995	32	N/A	66	Relu	ClipRound

Table D.34: All CSEEM Results of classification problems (34/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	monk_2	866.453	0.778	N/A	1000	1000	Tanh	SoftMax
RMSprop	monk_2	524.788	0.778	N/A	1000	79	Tanh	SoftMax
RMSprop	monk_2	137.002	0.778	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	monk_2	916.109	0.778	N/A	1000	69	SoftRelu	SoftMax
RMSprop	monk_2	254.833	0.806	N/A	1000	1000	Relu	SoftMax
RMSprop	monk_2	553.976	0.806	N/A	1000	53	Relu	SoftMax
SGD	monk_2	891.123	0.699	N/A	1000	1000	Tanh	SoftMax
SGD	monk_2	472.031	0.493	N/A	1000	79	Tanh	SoftMax
SGD	monk_2	974.132	0.727	N/A	1000	1000	SoftRelu	SoftMax
SGD	monk_2	746.679	0.553	N/A	1000	69	SoftRelu	SoftMax
SGD	monk_2	596.446	0.414	N/A	1000	1000	Relu	SoftMax
SGD	monk_2	476.204	0.41	N/A	1000	53	Relu	SoftMax
Adadelta	newthyroid	898.676	0.833	N/A	1000	1000	Tanh	SoftMax
Adadelta	newthyroid	385.884	0.0372	N/A	1000	28	Tanh	SoftMax
Adadelta	newthyroid	794.98	0.391	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	newthyroid	389.567	0.251	N/A	1000	32	SoftRelu	SoftMax
Adadelta	newthyroid	985.971	0.46	N/A	1000	1000	Relu	SoftMax
Adadelta	newthyroid	373.308	0.581	N/A	1000	34	Relu	SoftMax
Adagrad	newthyroid	849.002	0.893	N/A	1000	1000	Tanh	SoftMax
Adagrad	newthyroid	362.761	0.102	N/A	1000	28	Tanh	SoftMax
Adagrad	newthyroid	765.958	0.828	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	newthyroid	407.089	0.758	N/A	1000	32	SoftRelu	SoftMax
Adagrad	newthyroid	967.404	0.851	N/A	1000	1000	Relu	SoftMax
Adagrad	newthyroid	323.331	0.8	N/A	1000	34	Relu	SoftMax
Adam	newthyroid	947.933	0.991	N/A	1000	1000	Tanh	SoftMax
Adam	newthyroid	399.071	0.977	N/A	1000	28	Tanh	SoftMax
Adam	newthyroid	902.675	0.977	N/A	1000	1000	SoftRelu	SoftMax
Adam	newthyroid	415.849	0.977	N/A	1000	32	SoftRelu	SoftMax

Table D.35: All CSEEM Results of classification problems (35/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	newthyroid	55.216	0.972	N/A	1000	1000	Relu	SoftMax
Adam	newthyroid	378.28	0.963	N/A	1000	34	Relu	SoftMax
CSEEM	newthyroid	10.999	0.935	8	N/A	5	Tanh	ClipRound
CSEEM	newthyroid	56.0	0.977	8	N/A	34	SoftRelu	ClipRound
CSEEM	newthyroid	90.0	0.991	8	N/A	56	Relu	ClipRound
CSEEM	newthyroid	78.999	0.967	16	N/A	28	Tanh	ClipRound
CSEEM	newthyroid	97.0	0.972	16	N/A	32	SoftRelu	ClipRound
CSEEM	newthyroid	181.99	0.981	16	N/A	34	Relu	ClipRound
CSEEM	newthyroid	228.999	0.986	32	N/A	36	Tanh	ClipRound
CSEEM	newthyroid	159.999	0.981	32	N/A	36	SoftRelu	ClipRound
CSEEM	newthyroid	173.998	0.977	32	N/A	38	Relu	ClipRound
RMSprop	newthyroid	875.258	0.991	N/A	1000	1000	Tanh	SoftMax
RMSprop	newthyroid	407.676	0.991	N/A	1000	28	Tanh	SoftMax
RMSprop	newthyroid	575.012	0.986	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	newthyroid	622.554	0.972	N/A	1000	32	SoftRelu	SoftMax
RMSprop	newthyroid	205.092	0.981	N/A	1000	1000	Relu	SoftMax
RMSprop	newthyroid	363.504	0.977	N/A	1000	34	Relu	SoftMax
SGD	newthyroid	830.862	0.86	N/A	1000	1000	Tanh	SoftMax
SGD	newthyroid	330.795	0.377	N/A	1000	28	Tanh	SoftMax
SGD	newthyroid	923.478	0.86	N/A	1000	1000	SoftRelu	SoftMax
SGD	newthyroid	440.675	0.786	N/A	1000	32	SoftRelu	SoftMax
SGD	newthyroid	961.18	0.874	N/A	1000	1000	Relu	SoftMax
SGD	newthyroid	300.385	0.0837	N/A	1000	34	Relu	SoftMax
Adadelta	pima	886.587	0.474	N/A	1000	1000	Tanh	SoftMax
Adadelta	pima	894.825	0.499	N/A	1000	263	Tanh	SoftMax
Adadelta	pima	52.828	0.355	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	pima	353.188	0.444	N/A	1000	258	SoftRelu	SoftMax
Adadelta	pima	284.926	0.698	N/A	1000	1000	Relu	SoftMax

Table D.36: All CSEEM Results of classification problems (36/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	pima	783.841	0.654	N/A	1000	213	Relu	SoftMax
Adagrad	pima	854.688	0.52	N/A	1000	1000	Tanh	SoftMax
Adagrad	pima	876.334	0.458	N/A	1000	263	Tanh	SoftMax
Adagrad	pima	71.579	0.336	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	pima	330.938	0.635	N/A	1000	258	SoftRelu	SoftMax
Adagrad	pima	285.801	0.689	N/A	1000	1000	Relu	SoftMax
Adagrad	pima	814.329	0.486	N/A	1000	213	Relu	SoftMax
Adam	pima	905.97	0.65	N/A	1000	1000	Tanh	SoftMax
Adam	pima	996.794	0.669	N/A	1000	263	Tanh	SoftMax
Adam	pima	185.568	0.698	N/A	1000	1000	SoftRelu	SoftMax
Adam	pima	492.868	0.651	N/A	1000	258	SoftRelu	SoftMax
Adam	pima	341.328	0.651	N/A	1000	1000	Relu	SoftMax
Adam	pima	867.213	0.651	N/A	1000	213	Relu	SoftMax
CSEEM	pima	115.507	0.888	8	N/A	236	Tanh	ClipRound
CSEEM	pima	154.0	0.887	8	N/A	238	SoftRelu	ClipRound
CSEEM	pima	543.999	0.896	8	N/A	280	Relu	ClipRound
CSEEM	pima	947.0	0.905	16	N/A	263	Tanh	ClipRound
CSEEM	pima	878.009	0.888	16	N/A	258	SoftRelu	ClipRound
CSEEM	pima	156.993	0.883	16	N/A	213	Relu	ClipRound
CSEEM	pima	488.999	0.905	32	N/A	297	Tanh	ClipRound
CSEEM	pima	402.999	0.888	32	N/A	238	SoftRelu	ClipRound
CSEEM	pima	390.999	0.914	32	N/A	284	Relu	ClipRound
RMSprop	pima	634.05	0.667	N/A	1000	1000	Tanh	SoftMax
RMSprop	pima	44.996	0.656	N/A	1000	263	Tanh	SoftMax
RMSprop	pima	326.038	0.651	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	pima	381.203	0.699	N/A	1000	258	SoftRelu	SoftMax
RMSprop	pima	913.468	0.651	N/A	1000	1000	Relu	SoftMax
RMSprop	pima	669.727	0.654	N/A	1000	213	Relu	SoftMax

Table D.37: All CSEEM Results of classification problems (37/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
SGD	pima	826.034	0.648	N/A	1000	1000	Tanh	SoftMax
SGD	pima	6.091	0.648	N/A	1000	263	Tanh	SoftMax
SGD	pima	250.658	0.352	N/A	1000	1000	SoftRelu	SoftMax
SGD	pima	339.105	0.646	N/A	1000	258	SoftRelu	SoftMax
SGD	pima	279.871	0.685	N/A	1000	1000	Relu	SoftMax
SGD	pima	845.044	0.426	N/A	1000	213	Relu	SoftMax
Adadelta	post_operative	614.231	0.356	N/A	1000	1000	Tanh	SoftMax
Adadelta	post_operative	343.079	0.31	N/A	1000	34	Tanh	SoftMax
Adadelta	post_operative	842.023	0.333	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	post_operative	367.462	0.414	N/A	1000	36	SoftRelu	SoftMax
Adadelta	post_operative	603.318	0.333	N/A	1000	1000	Relu	SoftMax
Adadelta	post_operative	306.849	0.345	N/A	1000	44	Relu	SoftMax
Adagrad	post_operative	558.657	0.345	N/A	1000	1000	Tanh	SoftMax
Adagrad	post_operative	319.682	0.333	N/A	1000	34	Tanh	SoftMax
Adagrad	post_operative	802.299	0.379	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	post_operative	384.515	0.402	N/A	1000	36	SoftRelu	SoftMax
Adagrad	post_operative	561.914	0.448	N/A	1000	1000	Relu	SoftMax
Adagrad	post_operative	297.26	0.368	N/A	1000	44	Relu	SoftMax
Adam	post_operative	636.841	0.552	N/A	1000	1000	Tanh	SoftMax
Adam	post_operative	378.56	0.644	N/A	1000	34	Tanh	SoftMax
Adam	post_operative	908.416	0.575	N/A	1000	1000	SoftRelu	SoftMax
Adam	post_operative	386.13	0.563	N/A	1000	36	SoftRelu	SoftMax
Adam	post_operative	630.103	0.529	N/A	1000	1000	Relu	SoftMax
Adam	post_operative	346.497	0.517	N/A	1000	44	Relu	SoftMax
CSEEM	post_operative	8.0	0.828	8	N/A	32	Tanh	ClipRound
CSEEM	post_operative	8.997	0.793	8	N/A	34	SoftRelu	ClipRound
CSEEM	post_operative	10.0	0.793	8	N/A	29	Relu	ClipRound
CSEEM	post_operative	22.0	0.851	16	N/A	34	Tanh	ClipRound

Table D.38: All CSEEM Results of classification problems (38/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	post_operative	10.999	0.828	16	N/A	36	SoftRelu	ClipRound
CSEEM	post_operative	42.999	0.885	16	N/A	44	Relu	ClipRound
CSEEM	post_operative	47.999	0.885	32	N/A	32	Tanh	ClipRound
CSEEM	post_operative	62.0	0.816	32	N/A	31	SoftRelu	ClipRound
CSEEM	post_operative	44.0	0.862	32	N/A	35	Relu	ClipRound
RMSprop	post_operative	558.325	0.563	N/A	1000	1000	Tanh	SoftMax
RMSprop	post_operative	361.569	0.644	N/A	1000	34	Tanh	SoftMax
RMSprop	post_operative	920.063	0.655	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	post_operative	390.019	0.609	N/A	1000	36	SoftRelu	SoftMax
RMSprop	post_operative	270.962	0.54	N/A	1000	1000	Relu	SoftMax
RMSprop	post_operative	345.862	0.69	N/A	1000	44	Relu	SoftMax
SGD	post_operative	544.146	0.391	N/A	1000	1000	Tanh	SoftMax
SGD	post_operative	283.02	0.276	N/A	1000	34	Tanh	SoftMax
SGD	post_operative	821.132	0.207	N/A	1000	1000	SoftRelu	SoftMax
SGD	post_operative	312.956	0.345	N/A	1000	36	SoftRelu	SoftMax
SGD	post_operative	528.3	0.241	N/A	1000	1000	Relu	SoftMax
SGD	post_operative	262.801	0.23	N/A	1000	44	Relu	SoftMax
Adadelta	saheart	151.389	0.626	N/A	1000	1000	Tanh	SoftMax
Adadelta	saheart	623.668	0.4	N/A	1000	178	Tanh	SoftMax
Adadelta	saheart	651.374	0.571	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	saheart	891.237	0.53	N/A	1000	185	SoftRelu	SoftMax
Adadelta	saheart	986.097	0.628	N/A	1000	1000	Relu	SoftMax
Adadelta	saheart	790.183	0.39	N/A	1000	158	Relu	SoftMax
Adagrad	saheart	49.022	0.621	N/A	1000	1000	Tanh	SoftMax
Adagrad	saheart	577.959	0.639	N/A	1000	178	Tanh	SoftMax
Adagrad	saheart	438.225	0.667	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	saheart	852.136	0.677	N/A	1000	185	SoftRelu	SoftMax
Adagrad	saheart	965.334	0.628	N/A	1000	1000	Relu	SoftMax

Table D.39: All CSEEM Results of classification problems (39/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adagrad	saheart	749.886	0.656	N/A	1000	158	Relu	SoftMax
Adam	saheart	110.782	0.654	N/A	1000	1000	Tanh	SoftMax
Adam	saheart	612.713	0.652	N/A	1000	178	Tanh	SoftMax
Adam	saheart	390.46	0.654	N/A	1000	1000	SoftRelu	SoftMax
Adam	saheart	917.936	0.535	N/A	1000	185	SoftRelu	SoftMax
Adam	saheart	803.942	0.68	N/A	1000	1000	Relu	SoftMax
Adam	saheart	833.613	0.654	N/A	1000	158	Relu	SoftMax
CSEEM	saheart	320.0	0.87	8	N/A	162	Tanh	ClipRound
CSEEM	saheart	504.0	0.877	8	N/A	168	SoftRelu	ClipRound
CSEEM	saheart	307.999	0.851	8	N/A	124	Relu	ClipRound
CSEEM	saheart	342.999	0.896	16	N/A	178	Tanh	ClipRound
CSEEM	saheart	397.999	0.87	16	N/A	185	SoftRelu	ClipRound
CSEEM	saheart	198.993	0.877	16	N/A	158	Relu	ClipRound
CSEEM	saheart	186.508	0.887	32	N/A	186	Tanh	ClipRound
CSEEM	saheart	604.999	0.868	32	N/A	148	SoftRelu	ClipRound
CSEEM	saheart	149.999	0.868	32	N/A	149	Relu	ClipRound
RMSprop	saheart	860.135	0.632	N/A	1000	1000	Tanh	SoftMax
RMSprop	saheart	593.119	0.63	N/A	1000	178	Tanh	SoftMax
RMSprop	saheart	175.001	0.615	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	saheart	896.447	0.654	N/A	1000	185	SoftRelu	SoftMax
RMSprop	saheart	942.131	0.619	N/A	1000	1000	Relu	SoftMax
RMSprop	saheart	774.616	0.45	N/A	1000	158	Relu	SoftMax
SGD	saheart	916.369	0.571	N/A	1000	1000	Tanh	SoftMax
SGD	saheart	545.457	0.565	N/A	1000	178	Tanh	SoftMax
SGD	saheart	366.092	0.619	N/A	1000	1000	SoftRelu	SoftMax
SGD	saheart	824.706	0.628	N/A	1000	185	SoftRelu	SoftMax
SGD	saheart	972.358	0.645	N/A	1000	1000	Relu	SoftMax
SGD	saheart	722.536	0.671	N/A	1000	158	Relu	SoftMax

Table D.40: All CSEEM Results of classification problems (40/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	tae	775.915	0.404	N/A	1000	1000	Tanh	SoftMax
Adadelta	tae	388.593	0.325	N/A	1000	65	Tanh	SoftMax
Adadelta	tae	111.03	0.351	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	tae	408.048	0.331	N/A	1000	53	SoftRelu	SoftMax
Adadelta	tae	803.771	0.351	N/A	1000	1000	Relu	SoftMax
Adadelta	tae	342.872	0.437	N/A	1000	61	Relu	SoftMax
Adagrad	tae	783.71	0.45	N/A	1000	1000	Tanh	SoftMax
Adagrad	tae	355.574	0.404	N/A	1000	65	Tanh	SoftMax
Adagrad	tae	80.13	0.424	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	tae	366.363	0.311	N/A	1000	53	SoftRelu	SoftMax
Adagrad	tae	774.471	0.417	N/A	1000	1000	Relu	SoftMax
Adagrad	tae	317.566	0.331	N/A	1000	61	Relu	SoftMax
Adam	tae	785.917	0.43	N/A	1000	1000	Tanh	SoftMax
Adam	tae	412.87	0.384	N/A	1000	65	Tanh	SoftMax
Adam	tae	154.455	0.45	N/A	1000	1000	SoftRelu	SoftMax
Adam	tae	426.508	0.318	N/A	1000	53	SoftRelu	SoftMax
Adam	tae	819.675	0.47	N/A	1000	1000	Relu	SoftMax
Adam	tae	408.531	0.377	N/A	1000	61	Relu	SoftMax
CSEEM	tae	28.999	0.801	8	N/A	66	Tanh	ClipRound
CSEEM	tae	30.999	0.795	8	N/A	76	SoftRelu	ClipRound
CSEEM	tae	78.999	0.854	8	N/A	79	Relu	ClipRound
CSEEM	tae	52.001	0.834	16	N/A	65	Tanh	ClipRound
CSEEM	tae	41.999	0.702	16	N/A	53	SoftRelu	ClipRound
CSEEM	tae	28.99	0.755	16	N/A	61	Relu	ClipRound
CSEEM	tae	107.0	0.775	32	N/A	63	Tanh	ClipRound
CSEEM	tae	65.0	0.861	32	N/A	73	SoftRelu	ClipRound
CSEEM	tae	179.0	0.788	32	N/A	58	Relu	ClipRound
RMSprop	tae	997.999	0.397	N/A	1000	1000	Tanh	SoftMax

Table D.41: All CSEEM Results of classification problems (41/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	tae	383.926	0.437	N/A	1000	65	Tanh	SoftMax
RMSprop	tae	294.534	0.43	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	tae	449.419	0.444	N/A	1000	53	SoftRelu	SoftMax
RMSprop	tae	882.999	0.444	N/A	1000	1000	Relu	SoftMax
RMSprop	tae	384.689	0.43	N/A	1000	61	Relu	SoftMax
SGD	tae	699.005	0.417	N/A	1000	1000	Tanh	SoftMax
SGD	tae	356.43	0.424	N/A	1000	65	Tanh	SoftMax
SGD	tae	111.615	0.391	N/A	1000	1000	SoftRelu	SoftMax
SGD	tae	365.552	0.391	N/A	1000	53	SoftRelu	SoftMax
SGD	tae	726.443	0.377	N/A	1000	1000	Relu	SoftMax
SGD	tae	299.207	0.417	N/A	1000	61	Relu	SoftMax
Adadelta	tic_tac_toe	432.809	0.541	N/A	1000	1000	Tanh	SoftMax
Adadelta	tic_tac_toe	598.462	0.557	N/A	1000	361	Tanh	SoftMax
Adadelta	tic_tac_toe	552.038	0.543	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	tic_tac_toe	284.634	0.516	N/A	1000	187	SoftRelu	SoftMax
Adadelta	tic_tac_toe	926.366	0.537	N/A	1000	1000	Relu	SoftMax
Adadelta	tic_tac_toe	977.165	0.571	N/A	1000	268	Relu	SoftMax
Adagrad	tic_tac_toe	647.363	0.566	N/A	1000	1000	Tanh	SoftMax
Adagrad	tic_tac_toe	647.881	0.533	N/A	1000	361	Tanh	SoftMax
Adagrad	tic_tac_toe	511.039	0.49	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	tic_tac_toe	214.15	0.526	N/A	1000	187	SoftRelu	SoftMax
Adagrad	tic_tac_toe	828.211	0.54	N/A	1000	1000	Relu	SoftMax
Adagrad	tic_tac_toe	409.087	0.426	N/A	1000	268	Relu	SoftMax
Adam	tic_tac_toe	287.403	0.674	N/A	1000	1000	Tanh	SoftMax
Adam	tic_tac_toe	598.725	0.648	N/A	1000	361	Tanh	SoftMax
Adam	tic_tac_toe	727.413	0.664	N/A	1000	1000	SoftRelu	SoftMax
Adam	tic_tac_toe	375.283	0.645	N/A	1000	187	SoftRelu	SoftMax
Adam	tic_tac_toe	901.869	0.606	N/A	1000	1000	Relu	SoftMax

Table D.42: All CSEEM Results of classification problems (42/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	tic_tac_toe	522.156	0.623	N/A	1000	268	Relu	SoftMax
CSEEM	tic_tac_toe	913.0	0.92	8	N/A	328	Tanh	ClipRound
CSEEM	tic_tac_toe	367.0	0.955	8	N/A	218	SoftRelu	ClipRound
CSEEM	tic_tac_toe	954.002	0.953	8	N/A	243	Relu	ClipRound
CSEEM	tic_tac_toe	453.0	0.944	16	N/A	361	Tanh	ClipRound
CSEEM	tic_tac_toe	944.999	0.962	16	N/A	187	SoftRelu	ClipRound
CSEEM	tic_tac_toe	868.993	0.96	16	N/A	268	Relu	ClipRound
CSEEM	tic_tac_toe	867.0	0.944	32	N/A	326	Tanh	ClipRound
CSEEM	tic_tac_toe	775.999	0.961	32	N/A	189	SoftRelu	ClipRound
CSEEM	tic_tac_toe	563.018	0.957	32	N/A	218	Relu	ClipRound
RMSprop	tic_tac_toe	284.001	0.683	N/A	1000	1000	Tanh	SoftMax
RMSprop	tic_tac_toe	598.91	0.669	N/A	1000	361	Tanh	SoftMax
RMSprop	tic_tac_toe	7.592	0.687	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	tic_tac_toe	268.369	0.693	N/A	1000	187	SoftRelu	SoftMax
RMSprop	tic_tac_toe	872.001	0.63	N/A	1000	1000	Relu	SoftMax
RMSprop	tic_tac_toe	605.473	0.497	N/A	1000	268	Relu	SoftMax
SGD	tic_tac_toe	115.902	0.596	N/A	1000	1000	Tanh	SoftMax
SGD	tic_tac_toe	618.846	0.509	N/A	1000	361	Tanh	SoftMax
SGD	tic_tac_toe	581.87	0.593	N/A	1000	1000	SoftRelu	SoftMax
SGD	tic_tac_toe	193.802	0.405	N/A	1000	187	SoftRelu	SoftMax
SGD	tic_tac_toe	830.669	0.39	N/A	1000	1000	Relu	SoftMax
SGD	tic_tac_toe	517.736	0.389	N/A	1000	268	Relu	SoftMax
Adadelta	vehicle	95.195	0.489	N/A	1000	1000	Tanh	SoftMax
Adadelta	vehicle	28.863	0.537	N/A	1000	278	Tanh	SoftMax
Adadelta	vehicle	643.911	0.394	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	vehicle	368.906	0.213	N/A	1000	208	SoftRelu	SoftMax
Adadelta	vehicle	585.776	0.402	N/A	1000	1000	Relu	SoftMax
Adadelta	vehicle	463.618	0.235	N/A	1000	278	Relu	SoftMax

Table D.43: All CSEEM Results of classification problems (43/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adagrad	vehicle	966.516	0.475	N/A	1000	1000	Tanh	SoftMax
Adagrad	vehicle	8.623	0.453	N/A	1000	278	Tanh	SoftMax
Adagrad	vehicle	519.372	0.132	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	vehicle	407.055	0.235	N/A	1000	208	SoftRelu	SoftMax
Adagrad	vehicle	477.115	0.44	N/A	1000	1000	Relu	SoftMax
Adagrad	vehicle	466.161	0.235	N/A	1000	278	Relu	SoftMax
Adam	vehicle	62.816	0.481	N/A	1000	1000	Tanh	SoftMax
Adam	vehicle	98.379	0.485	N/A	1000	278	Tanh	SoftMax
Adam	vehicle	609.836	0.235	N/A	1000	1000	SoftRelu	SoftMax
Adam	vehicle	461.75	0.235	N/A	1000	208	SoftRelu	SoftMax
Adam	vehicle	664.868	0.235	N/A	1000	1000	Relu	SoftMax
Adam	vehicle	86.535	0.235	N/A	1000	278	Relu	SoftMax
CSEEM	vehicle	984.526	0.875	8	N/A	267	Tanh	ClipRound
CSEEM	vehicle	815.0	0.874	8	N/A	183	SoftRelu	ClipRound
CSEEM	vehicle	395.001	0.864	8	N/A	166	Relu	ClipRound
CSEEM	vehicle	230.997	0.892	16	N/A	278	Tanh	ClipRound
CSEEM	vehicle	638.0	0.887	16	N/A	208	SoftRelu	ClipRound
CSEEM	vehicle	90.991	0.917	16	N/A	278	Relu	ClipRound
CSEEM	vehicle	828.533	0.885	32	N/A	274	Tanh	ClipRound
CSEEM	vehicle	89.0	0.918	32	N/A	272	SoftRelu	ClipRound
CSEEM	vehicle	993.001	0.933	32	N/A	280	Relu	ClipRound
RMSprop	vehicle	29.001	0.447	N/A	1000	1000	Tanh	SoftMax
RMSprop	vehicle	78.131	0.428	N/A	1000	278	Tanh	SoftMax
RMSprop	vehicle	961.519	0.235	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	vehicle	405.805	0.235	N/A	1000	208	SoftRelu	SoftMax
RMSprop	vehicle	954.0	0.235	N/A	1000	1000	Relu	SoftMax
RMSprop	vehicle	380.874	0.235	N/A	1000	278	Relu	SoftMax
SGD	vehicle	846.327	0.513	N/A	1000	1000	Tanh	SoftMax

Table D.44: All CSEEM Results of classification problems (44/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
SGD	vehicle	945.414	0.559	N/A	1000	278	Tanh	SoftMax
SGD	vehicle	555.323	0.326	N/A	1000	1000	SoftRelu	SoftMax
SGD	vehicle	492.329	0.403	N/A	1000	208	SoftRelu	SoftMax
SGD	vehicle	494.223	0.441	N/A	1000	1000	Relu	SoftMax
SGD	vehicle	219.706	0.277	N/A	1000	278	Relu	SoftMax
Adadelta	vowel	333.807	0.151	N/A	1000	1000	Tanh	SoftMax
Adadelta	vowel	518.845	0.14	N/A	1000	280	Tanh	SoftMax
Adadelta	vowel	40.089	0.104	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	vowel	367.691	0.0808	N/A	1000	273	SoftRelu	SoftMax
Adadelta	vowel	193.718	0.0778	N/A	1000	1000	Relu	SoftMax
Adadelta	vowel	616.824	0.0879	N/A	1000	259	Relu	SoftMax
Adagrad	vowel	429.82	0.102	N/A	1000	1000	Tanh	SoftMax
Adagrad	vowel	498.401	0.139	N/A	1000	280	Tanh	SoftMax
Adagrad	vowel	923.543	0.101	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	vowel	385.642	0.128	N/A	1000	273	SoftRelu	SoftMax
Adagrad	vowel	8.397	0.0778	N/A	1000	1000	Relu	SoftMax
Adagrad	vowel	521.462	0.0818	N/A	1000	259	Relu	SoftMax
Adam	vowel	463.689	0.331	N/A	1000	1000	Tanh	SoftMax
Adam	vowel	550.169	0.335	N/A	1000	280	Tanh	SoftMax
Adam	vowel	88.491	0.0909	N/A	1000	1000	SoftRelu	SoftMax
Adam	vowel	394.984	0.309	N/A	1000	273	SoftRelu	SoftMax
Adam	vowel	109.826	0.337	N/A	1000	1000	Relu	SoftMax
Adam	vowel	337.189	0.337	N/A	1000	259	Relu	SoftMax
CSEEM	vowel	32.0	0.947	8	N/A	248	Tanh	ClipRound
CSEEM	vowel	812.001	0.959	8	N/A	239	SoftRelu	ClipRound
CSEEM	vowel	252.003	0.954	8	N/A	255	Relu	ClipRound
CSEEM	vowel	545.001	0.978	16	N/A	280	Tanh	ClipRound
CSEEM	vowel	705.998	0.971	16	N/A	273	SoftRelu	ClipRound

Table D.45: All CSEEM Results of classification problems (45/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	vowel	437.002	0.973	16	N/A	259	Relu	ClipRound
CSEEM	vowel	319.605	0.971	32	N/A	269	Tanh	ClipRound
CSEEM	vowel	848.001	0.96	32	N/A	221	SoftRelu	ClipRound
CSEEM	vowel	786.999	0.913	32	N/A	213	Relu	ClipRound
RMSprop	vowel	476.78	0.0909	N/A	1000	1000	Tanh	SoftMax
RMSprop	vowel	563.481	0.344	N/A	1000	280	Tanh	SoftMax
RMSprop	vowel	81.034	0.0909	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	vowel	292.13	0.309	N/A	1000	273	SoftRelu	SoftMax
RMSprop	vowel	146.0	0.355	N/A	1000	1000	Relu	SoftMax
RMSprop	vowel	472.033	0.29	N/A	1000	259	Relu	SoftMax
SGD	vowel	380.955	0.0869	N/A	1000	1000	Tanh	SoftMax
SGD	vowel	481.411	0.106	N/A	1000	280	Tanh	SoftMax
SGD	vowel	49.001	0.0869	N/A	1000	1000	SoftRelu	SoftMax
SGD	vowel	237.82	0.096	N/A	1000	273	SoftRelu	SoftMax
SGD	vowel	85.924	0.116	N/A	1000	1000	Relu	SoftMax
SGD	vowel	319.963	0.0919	N/A	1000	259	Relu	SoftMax
Adadelta	wine	487.458	0.685	N/A	1000	1000	Tanh	SoftMax
Adadelta	wine	382.646	0.365	N/A	1000	37	Tanh	SoftMax
Adadelta	wine	249.344	0.607	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	wine	371.896	0.331	N/A	1000	29	SoftRelu	SoftMax
Adadelta	wine	887.07	0.331	N/A	1000	1000	Relu	SoftMax
Adadelta	wine	315.515	0.174	N/A	1000	25	Relu	SoftMax
Adagrad	wine	730.804	0.685	N/A	1000	1000	Tanh	SoftMax
Adagrad	wine	355.591	0.247	N/A	1000	37	Tanh	SoftMax
Adagrad	wine	101.055	0.674	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	wine	361.917	0.331	N/A	1000	29	SoftRelu	SoftMax
Adagrad	wine	856.584	0.663	N/A	1000	1000	Relu	SoftMax
Adagrad	wine	275.249	0.331	N/A	1000	25	Relu	SoftMax

Table D.46: All CSEEM Results of classification problems (46/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adam	wine	781.884	0.933	N/A	1000	1000	Tanh	SoftMax
Adam	wine	401.054	0.652	N/A	1000	37	Tanh	SoftMax
Adam	wine	214.568	0.331	N/A	1000	1000	SoftRelu	SoftMax
Adam	wine	422.596	0.331	N/A	1000	29	SoftRelu	SoftMax
Adam	wine	903.531	0.331	N/A	1000	1000	Relu	SoftMax
Adam	wine	369.399	0.331	N/A	1000	25	Relu	SoftMax
CSEEM	wine	36.0	0.983	8	N/A	41	Tanh	ClipRound
CSEEM	wine	11.0	0.983	8	N/A	35	SoftRelu	ClipRound
CSEEM	wine	22.998	0.972	8	N/A	38	Relu	ClipRound
CSEEM	wine	97.001	0.966	16	N/A	37	Tanh	ClipRound
CSEEM	wine	62.994	0.978	16	N/A	29	SoftRelu	ClipRound
CSEEM	wine	41.997	0.955	16	N/A	25	Relu	ClipRound
CSEEM	wine	115.0	0.972	32	N/A	21	Tanh	ClipRound
CSEEM	wine	100.0	0.966	32	N/A	37	SoftRelu	ClipRound
CSEEM	wine	314.0	0.972	32	N/A	33	Relu	ClipRound
RMSprop	wine	862.893	0.933	N/A	1000	1000	Tanh	SoftMax
RMSprop	wine	422.919	0.669	N/A	1000	37	Tanh	SoftMax
RMSprop	wine	390.009	0.331	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	wine	408.731	0.893	N/A	1000	29	SoftRelu	SoftMax
RMSprop	wine	678.051	0.331	N/A	1000	1000	Relu	SoftMax
RMSprop	wine	325.256	0.916	N/A	1000	25	Relu	SoftMax
SGD	wine	748.845	0.685	N/A	1000	1000	Tanh	SoftMax
SGD	wine	314.273	0.652	N/A	1000	37	Tanh	SoftMax
SGD	wine	79.732	0.713	N/A	1000	1000	SoftRelu	SoftMax
SGD	wine	346.3	0.331	N/A	1000	29	SoftRelu	SoftMax
SGD	wine	801.817	0.331	N/A	1000	1000	Relu	SoftMax
SGD	wine	274.915	0.331	N/A	1000	25	Relu	SoftMax
Adadelta	wisconsin	797.251	0.205	N/A	1000	1000	Tanh	SoftMax

Table D.47: All CSEEM Results of classification problems (47/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
Adadelta	wisconsin	605.205	0.247	N/A	1000	89	Tanh	SoftMax
Adadelta	wisconsin	165.757	0.917	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	wisconsin	769.454	0.0966	N/A	1000	88	SoftRelu	SoftMax
Adadelta	wisconsin	936.974	0.925	N/A	1000	1000	Relu	SoftMax
Adadelta	wisconsin	535.397	0.493	N/A	1000	68	Relu	SoftMax
Adagrad	wisconsin	844.064	0.95	N/A	1000	1000	Tanh	SoftMax
Adagrad	wisconsin	551.134	0.572	N/A	1000	89	Tanh	SoftMax
Adagrad	wisconsin	101.02	0.895	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	wisconsin	769.108	0.814	N/A	1000	88	SoftRelu	SoftMax
Adagrad	wisconsin	843.085	0.108	N/A	1000	1000	Relu	SoftMax
Adagrad	wisconsin	504.62	0.375	N/A	1000	68	Relu	SoftMax
Adam	wisconsin	967.676	0.966	N/A	1000	1000	Tanh	SoftMax
Adam	wisconsin	597.071	0.953	N/A	1000	89	Tanh	SoftMax
Adam	wisconsin	47.568	0.971	N/A	1000	1000	SoftRelu	SoftMax
Adam	wisconsin	782.35	0.95	N/A	1000	88	SoftRelu	SoftMax
Adam	wisconsin	920.584	0.969	N/A	1000	1000	Relu	SoftMax
Adam	wisconsin	551.941	0.968	N/A	1000	68	Relu	SoftMax
CSEEM	wisconsin	464.999	0.982	8	N/A	102	Tanh	ClipRound
CSEEM	wisconsin	245.0	0.98	8	N/A	53	SoftRelu	ClipRound
CSEEM	wisconsin	408.0	0.98	8	N/A	81	Relu	ClipRound
CSEEM	wisconsin	894.001	0.981	16	N/A	89	Tanh	ClipRound
CSEEM	wisconsin	691.999	0.982	16	N/A	88	SoftRelu	ClipRound
CSEEM	wisconsin	324.0	0.981	16	N/A	68	Relu	ClipRound
CSEEM	wisconsin	764.51	0.985	32	N/A	94	Tanh	ClipRound
CSEEM	wisconsin	185.0	0.988	32	N/A	115	SoftRelu	ClipRound
CSEEM	wisconsin	619.999	0.984	32	N/A	85	Relu	ClipRound
RMSprop	wisconsin	430.001	0.969	N/A	1000	1000	Tanh	SoftMax
RMSprop	wisconsin	577.476	0.946	N/A	1000	89	Tanh	SoftMax

Table D.48: All CSEEM Results of classification problems (48/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
RMSprop	wisconsin	885.074	0.978	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	wisconsin	749.024	0.972	N/A	1000	88	SoftRelu	SoftMax
RMSprop	wisconsin	268.872	0.971	N/A	1000	1000	Relu	SoftMax
RMSprop	wisconsin	551.075	0.974	N/A	1000	68	Relu	SoftMax
SGD	wisconsin	175.971	0.959	N/A	1000	1000	Tanh	SoftMax
SGD	wisconsin	527.069	0.17	N/A	1000	89	Tanh	SoftMax
SGD	wisconsin	942.619	0.959	N/A	1000	1000	SoftRelu	SoftMax
SGD	wisconsin	682.916	0.956	N/A	1000	88	SoftRelu	SoftMax
SGD	wisconsin	952.632	0.949	N/A	1000	1000	Relu	SoftMax
SGD	wisconsin	480.905	0.912	N/A	1000	68	Relu	SoftMax
Adadelta	zoo	806.181	0.248	N/A	1000	1000	Tanh	SoftMax
Adadelta	zoo	354.663	0.238	N/A	1000	26	Tanh	SoftMax
Adadelta	zoo	928.587	0.0099	N/A	1000	1000	SoftRelu	SoftMax
Adadelta	zoo	403.467	0.0594	N/A	1000	22	SoftRelu	SoftMax
Adadelta	zoo	722.16	0.168	N/A	1000	1000	Relu	SoftMax
Adadelta	zoo	290.432	0.158	N/A	1000	22	Relu	SoftMax
Adagrad	zoo	817.483	0.406	N/A	1000	1000	Tanh	SoftMax
Adagrad	zoo	323.221	0.178	N/A	1000	26	Tanh	SoftMax
Adagrad	zoo	883.58	0.0099	N/A	1000	1000	SoftRelu	SoftMax
Adagrad	zoo	333.271	0.416	N/A	1000	22	SoftRelu	SoftMax
Adagrad	zoo	680.745	0.366	N/A	1000	1000	Relu	SoftMax
Adagrad	zoo	267.788	0.0891	N/A	1000	22	Relu	SoftMax
Adam	zoo	935.639	0.96	N/A	1000	1000	Tanh	SoftMax
Adam	zoo	389.574	0.96	N/A	1000	26	Tanh	SoftMax
Adam	zoo	951.3	0.99	N/A	1000	1000	SoftRelu	SoftMax
Adam	zoo	385.294	0.96	N/A	1000	22	SoftRelu	SoftMax
Adam	zoo	730.774	0.99	N/A	1000	1000	Relu	SoftMax
Adam	zoo	316.174	0.99	N/A	1000	22	Relu	SoftMax

Table D.49: All Results of Classification problems (49/49).

Method	Dataset	Time (s)	Accuracy	n_c	epochs	k	$\phi(\cdot)$	$\phi_o(\cdot)$
CSEEM	zoo	13.0	0.98	8	N/A	24	Tanh	ClipRound
CSEEM	zoo	10.0	0.97	8	N/A	21	SoftRelu	ClipRound
CSEEM	zoo	20.998	0.99	8	N/A	24	Relu	ClipRound
CSEEM	zoo	14.0	0.98	16	N/A	26	Tanh	ClipRound
CSEEM	zoo	26.999	0.941	16	N/A	22	SoftRelu	ClipRound
CSEEM	zoo	30.985	1	16	N/A	22	Relu	ClipRound
CSEEM	zoo	59.0	0.96	32	N/A	21	Tanh	ClipRound
CSEEM	zoo	38.0	0.98	32	N/A	22	SoftRelu	ClipRound
CSEEM	zoo	43.999	0.95	32	N/A	20	Relu	ClipRound
RMSprop	zoo	696.959	0.99	N/A	1000	1000	Tanh	SoftMax
RMSprop	zoo	359.069	0.97	N/A	1000	26	Tanh	SoftMax
RMSprop	zoo	91.009	0.99	N/A	1000	1000	SoftRelu	SoftMax
RMSprop	zoo	378.793	0.97	N/A	1000	22	SoftRelu	SoftMax
RMSprop	zoo	173.105	0.99	N/A	1000	1000	Relu	SoftMax
RMSprop	zoo	319.485	0.97	N/A	1000	22	Relu	SoftMax
SGD	zoo	879.341	0.762	N/A	1000	1000	Tanh	SoftMax
SGD	zoo	297.788	0.475	N/A	1000	26	Tanh	SoftMax
SGD	zoo	844.504	0.663	N/A	1000	1000	SoftRelu	SoftMax
SGD	zoo	316.82	0.505	N/A	1000	22	SoftRelu	SoftMax
SGD	zoo	650.41	0.822	N/A	1000	1000	Relu	SoftMax
SGD	zoo	257.286	0.208	N/A	1000	22	Relu	SoftMax