University of Huddersfield

OPTIMAL MODEL-PARAMETER DETERMINATION FOR FEEDFORWARD ARTIFICIAL NEURAL NETWORKS

by
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Table of Contents

List of Figures

List of Tables

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