

# Optimal Model-parameter Determination for Feedforward Artificial Neural Networks

Jordan Birdsall University of Huddersfield School of Computing and Engineering

February 16, 2023

# Table of Contents

|  |     |
|--|-----|
| Appendices                               | 1   |
| A Regression Problems Summary            | 1   |
| B Classification Problems Summary        | 4   |
| C CSEEM Regression Results               | 7   |
| D RMSProp Regression Summary Results     | 10  |
| E CSEEM Classification Results           | 14  |
| F RMSProp Classification Summary Results | 17  |
| G CSEEM Regression All Results           | 23  |
| H RMSProp Regression All Results         | 86  |
| I CSEEM Classification All Results       | 108 |
| J RMSProp Classification All Results     | 192 |

# List of Figures

# List of Tables

|     |   |    |
|-----|---|----|
| A.1 | Regression Problems Summary. . . . .                        | 2  |
| B.1 | Classification Problems Summary. . . . .                    | 5  |
| C.1 | Summary CSEEM Results of regression problems (1/1). . . . . | 8  |
| D.1 | RMSprop Results of regression problems (1/2). . . . .       | 11 |
| D.2 | RMSprop Results of regression problems (2/2). . . . .       | 12 |
| E.1 | Summary CSEEM Results of classification problems (1/2). . . | 15 |
| E.2 | Summary CSEEM Results of classification problems (2/2). . . | 16 |
| F.1 | RMSprop Results of classification problems (1/5). . . . .   | 18 |
| F.2 | RMSprop Results of classification problems (2/5). . . . .   | 19 |
| F.3 | RMSprop Results of classification problems (3/5). . . . .   | 20 |

|      |   |    |
|------|---|----|
| F.4  | RMSprop Results of classification problems (4/5). . . . . | 21 |
| F.5  | RMSprop Results of classification problems (5/5). . . . . | 22 |
| G.1  | All CSEEM Results of regression problems (1/61). . . . .  | 24 |
| G.2  | All CSEEM Results of regression problems (2/61). . . . .  | 25 |
| G.3  | All CSEEM Results of regression problems (3/61). . . . .  | 26 |
| G.4  | All CSEEM Results of regression problems (4/61). . . . .  | 27 |
| G.5  | All CSEEM Results of regression problems (5/61). . . . .  | 28 |
| G.6  | All CSEEM Results of regression problems (6/61). . . . .  | 29 |
| G.7  | All CSEEM Results of regression problems (7/61). . . . .  | 30 |
| G.8  | All CSEEM Results of regression problems (8/61). . . . .  | 31 |
| G.9  | All CSEEM Results of regression problems (9/61). . . . .  | 32 |
| G.10 | All CSEEM Results of regression problems (10/61). . . . . | 33 |
| G.11 | All CSEEM Results of regression problems (11/61). . . . . | 34 |
| G.12 | All CSEEM Results of regression problems (12/61). . . . . | 35 |
| G.13 | All CSEEM Results of regression problems (13/61). . . . . | 36 |
| G.14 | All CSEEM Results of regression problems (14/61). . . . . | 37 |
| G.15 | All CSEEM Results of regression problems (15/61). . . . . | 38 |
| G.16 | All CSEEM Results of regression problems (16/61). . . . . | 39 |
| G.17 | All CSEEM Results of regression problems (17/61). . . . . | 40 |
| G.18 | All CSEEM Results of regression problems (18/61). . . . . | 41 |
| G.19 | All CSEEM Results of regression problems (19/61). . . . . | 42 |
| G.20 | All CSEEM Results of regression problems (20/61). . . . . | 43 |

|      |   |    |
|------|---|----|
| G.21 | All CSEEM Results of regression problems (21/61). | 44 |
| G.22 | All CSEEM Results of regression problems (22/61). | 45 |
| G.23 | All CSEEM Results of regression problems (23/61). | 46 |
| G.24 | All CSEEM Results of regression problems (24/61). | 47 |
| G.25 | All CSEEM Results of regression problems (25/61). | 48 |
| G.26 | All CSEEM Results of regression problems (26/61). | 49 |
| G.27 | All CSEEM Results of regression problems (27/61). | 50 |
| G.28 | All CSEEM Results of regression problems (28/61). | 51 |
| G.29 | All CSEEM Results of regression problems (29/61). | 52 |
| G.30 | All CSEEM Results of regression problems (30/61). | 53 |
| G.31 | All CSEEM Results of regression problems (31/61). | 54 |
| G.32 | All CSEEM Results of regression problems (32/61). | 55 |
| G.33 | All CSEEM Results of regression problems (33/61). | 56 |
| G.34 | All CSEEM Results of regression problems (34/61). | 57 |
| G.35 | All CSEEM Results of regression problems (35/61). | 58 |
| G.36 | All CSEEM Results of regression problems (36/61). | 59 |
| G.37 | All CSEEM Results of regression problems (37/61). | 60 |
| G.38 | All CSEEM Results of regression problems (38/61). | 61 |
| G.39 | All CSEEM Results of regression problems (39/61). | 62 |
| G.40 | All CSEEM Results of regression problems (40/61). | 63 |
| G.41 | All CSEEM Results of regression problems (41/61). | 64 |
| G.42 | All CSEEM Results of regression problems (42/61). | 65 |
| G.43 | All CSEEM Results of regression problems (43/61). | 66 |

|      |  |    |
|------|--|----|
| G.44 | All CSEEM Results of regression problems (44/61). . . . .  | 67 |
| G.45 | All CSEEM Results of regression problems (45/61). . . . .  | 68 |
| G.46 | All CSEEM Results of regression problems (46/61). . . . .  | 69 |
| G.47 | All CSEEM Results of regression problems (47/61). . . . .  | 70 |
| G.48 | All CSEEM Results of regression problems (48/61). . . . .  | 71 |
| G.49 | All CSEEM Results of regression problems (49/61). . . . .  | 72 |
| G.50 | All CSEEM Results of regression problems (50/61). . . . .  | 73 |
| G.51 | All CSEEM Results of regression problems (51/61). . . . .  | 74 |
| G.52 | All CSEEM Results of regression problems (52/61). . . . .  | 75 |
| G.53 | All CSEEM Results of regression problems (53/61). . . . .  | 76 |
| G.54 | All CSEEM Results of regression problems (54/61). . . . .  | 77 |
| G.55 | All CSEEM Results of regression problems (55/61). . . . .  | 78 |
| G.56 | All CSEEM Results of regression problems (56/61). . . . .  | 79 |
| G.57 | All CSEEM Results of regression problems (57/61). . . . .  | 80 |
| G.58 | All CSEEM Results of regression problems (58/61). . . . .  | 81 |
| G.59 | All CSEEM Results of regression problems (59/61). . . . .  | 82 |
| G.60 | All CSEEM Results of regression problems (60/61). . . . .  | 83 |
| G.61 | All CSEEM Results of regression problems (61/61). . . . .  | 84 |
| H.1  | All RMSProp Results of regression problems (1/21). . . . . | 87 |
| H.2  | All RMSProp Results of regression problems (2/21). . . . . | 88 |
| H.3  | All RMSProp Results of regression problems (3/21). . . . . | 89 |
| H.4  | All RMSProp Results of regression problems (4/21). . . . . | 90 |

|      |  |     |
|------|--|-----|
| H.5  | All RMSPProp Results of regression problems (5/21). . . . .  | 91  |
| H.6  | All RMSPProp Results of regression problems (6/21). . . . .  | 92  |
| H.7  | All RMSPProp Results of regression problems (7/21). . . . .  | 93  |
| H.8  | All RMSPProp Results of regression problems (8/21). . . . .  | 94  |
| H.9  | All RMSPProp Results of regression problems (9/21). . . . .  | 95  |
| H.10 | All RMSPProp Results of regression problems (10/21). . . . . | 96  |
| H.11 | All RMSPProp Results of regression problems (11/21). . . . . | 97  |
| H.12 | All RMSPProp Results of regression problems (12/21). . . . . | 98  |
| H.13 | All RMSPProp Results of regression problems (13/21). . . . . | 99  |
| H.14 | All RMSPProp Results of regression problems (14/21). . . . . | 100 |
| H.15 | All RMSPProp Results of regression problems (15/21). . . . . | 101 |
| H.16 | All RMSPProp Results of regression problems (16/21). . . . . | 102 |
| H.17 | All RMSPProp Results of regression problems (17/21). . . . . | 103 |
| H.18 | All RMSPProp Results of regression problems (18/21). . . . . | 104 |
| H.19 | All RMSPProp Results of regression problems (19/21). . . . . | 105 |
| H.20 | All RMSPProp Results of regression problems (20/21). . . . . | 106 |
| H.21 | All RMSPProp Results of regression problems (21/21). . . . . | 107 |
| I.1  | All CSEEM Results of classification problems (1/83). . . . . | 109 |
| I.2  | All CSEEM Results of classification problems (2/83). . . . . | 110 |
| I.3  | All CSEEM Results of classification problems (3/83). . . . . | 111 |
| I.4  | All CSEEM Results of classification problems (4/83). . . . . | 112 |
| I.5  | All CSEEM Results of classification problems (5/83). . . . . | 113 |

|      |   |     |
|------|---|-----|
| I.6  | All CSEEM Results of classification problems (6/83). . . . .  | 114 |
| I.7  | All CSEEM Results of classification problems (7/83). . . . .  | 115 |
| I.8  | All CSEEM Results of classification problems (8/83). . . . .  | 116 |
| I.9  | All CSEEM Results of classification problems (9/83). . . . .  | 117 |
| I.10 | All CSEEM Results of classification problems (10/83). . . . . | 118 |
| I.11 | All CSEEM Results of classification problems (11/83). . . . . | 119 |
| I.12 | All CSEEM Results of classification problems (12/83). . . . . | 120 |
| I.13 | All CSEEM Results of classification problems (13/83). . . . . | 121 |
| I.14 | All CSEEM Results of classification problems (14/83). . . . . | 122 |
| I.15 | All CSEEM Results of classification problems (15/83). . . . . | 123 |
| I.16 | All CSEEM Results of classification problems (16/83). . . . . | 124 |
| I.17 | All CSEEM Results of classification problems (17/83). . . . . | 125 |
| I.18 | All CSEEM Results of classification problems (18/83). . . . . | 126 |
| I.19 | All CSEEM Results of classification problems (19/83). . . . . | 127 |
| I.20 | All CSEEM Results of classification problems (20/83). . . . . | 128 |
| I.21 | All CSEEM Results of classification problems (21/83). . . . . | 129 |
| I.22 | All CSEEM Results of classification problems (22/83). . . . . | 130 |
| I.23 | All CSEEM Results of classification problems (23/83). . . . . | 131 |
| I.24 | All CSEEM Results of classification problems (24/83). . . . . | 132 |
| I.25 | All CSEEM Results of classification problems (25/83). . . . . | 133 |
| I.26 | All CSEEM Results of classification problems (26/83). . . . . | 134 |
| I.27 | All CSEEM Results of classification problems (27/83). . . . . | 135 |
| I.28 | All CSEEM Results of classification problems (28/83). . . . . | 136 |



|      |   |     |
|------|---|-----|
| I.29 | All CSEEM Results of classification problems (29/83). . . . . | 137 |
| I.30 | All CSEEM Results of classification problems (30/83). . . . . | 138 |
| I.31 | All CSEEM Results of classification problems (31/83). . . . . | 139 |
| I.32 | All CSEEM Results of classification problems (32/83). . . . . | 140 |
| I.33 | All CSEEM Results of classification problems (33/83). . . . . | 141 |
| I.34 | All CSEEM Results of classification problems (34/83). . . . . | 142 |
| I.35 | All CSEEM Results of classification problems (35/83). . . . . | 143 |
| I.36 | All CSEEM Results of classification problems (36/83). . . . . | 144 |
| I.37 | All CSEEM Results of classification problems (37/83). . . . . | 145 |
| I.38 | All CSEEM Results of classification problems (38/83). . . . . | 146 |
| I.39 | All CSEEM Results of classification problems (39/83). . . . . | 147 |
| I.40 | All CSEEM Results of classification problems (40/83). . . . . | 148 |
| I.41 | All CSEEM Results of classification problems (41/83). . . . . | 149 |
| I.42 | All CSEEM Results of classification problems (42/83). . . . . | 150 |
| I.43 | All CSEEM Results of classification problems (43/83). . . . . | 151 |
| I.44 | All CSEEM Results of classification problems (44/83). . . . . | 152 |
| I.45 | All CSEEM Results of classification problems (45/83). . . . . | 153 |
| I.46 | All CSEEM Results of classification problems (46/83). . . . . | 154 |
| I.47 | All CSEEM Results of classification problems (47/83). . . . . | 155 |
| I.48 | All CSEEM Results of classification problems (48/83). . . . . | 156 |
| I.49 | All CSEEM Results of classification problems (49/83). . . . . | 157 |
| I.50 | All CSEEM Results of classification problems (50/83). . . . . | 158 |
| I.51 | All CSEEM Results of classification problems (51/83). . . . . | 159 |

|      |   |     |
|------|---|-----|
| I.52 | All CSEEM Results of classification problems (52/83). . . . . | 160 |
| I.53 | All CSEEM Results of classification problems (53/83). . . . . | 161 |
| I.54 | All CSEEM Results of classification problems (54/83). . . . . | 162 |
| I.55 | All CSEEM Results of classification problems (55/83). . . . . | 163 |
| I.56 | All CSEEM Results of classification problems (56/83). . . . . | 164 |
| I.57 | All CSEEM Results of classification problems (57/83). . . . . | 165 |
| I.58 | All CSEEM Results of classification problems (58/83). . . . . | 166 |
| I.59 | All CSEEM Results of classification problems (59/83). . . . . | 167 |
| I.60 | All CSEEM Results of classification problems (60/83). . . . . | 168 |
| I.61 | All CSEEM Results of classification problems (61/83). . . . . | 169 |
| I.62 | All CSEEM Results of classification problems (62/83). . . . . | 170 |
| I.63 | All CSEEM Results of classification problems (63/83). . . . . | 171 |
| I.64 | All CSEEM Results of classification problems (64/83). . . . . | 172 |
| I.65 | All CSEEM Results of classification problems (65/83). . . . . | 173 |
| I.66 | All CSEEM Results of classification problems (66/83). . . . . | 174 |
| I.67 | All CSEEM Results of classification problems (67/83). . . . . | 175 |
| I.68 | All CSEEM Results of classification problems (68/83). . . . . | 176 |
| I.69 | All CSEEM Results of classification problems (69/83). . . . . | 177 |
| I.70 | All CSEEM Results of classification problems (70/83). . . . . | 178 |
| I.71 | All CSEEM Results of classification problems (71/83). . . . . | 179 |
| I.72 | All CSEEM Results of classification problems (72/83). . . . . | 180 |
| I.73 | All CSEEM Results of classification problems (73/83). . . . . | 181 |
| I.74 | All CSEEM Results of classification problems (74/83). . . . . | 182 |

|      |   |     |
|------|---|-----|
| I.75 | All CSEEM Results of classification problems (75/83). . . . .   | 183 |
| I.76 | All CSEEM Results of classification problems (76/83). . . . .   | 184 |
| I.77 | All CSEEM Results of classification problems (77/83). . . . .   | 185 |
| I.78 | All CSEEM Results of classification problems (78/83). . . . .   | 186 |
| I.79 | All CSEEM Results of classification problems (79/83). . . . .   | 187 |
| I.80 | All CSEEM Results of classification problems (80/83). . . . .   | 188 |
| I.81 | All CSEEM Results of classification problems (81/83). . . . .   | 189 |
| I.82 | All CSEEM Results of classification problems (82/83). . . . .   | 190 |
| I.83 | All CSEEM Results of classification problems (83/83). . . . .   | 191 |
| J.1  | All RMSProp Results of classification problems (1/28). . . . .  | 193 |
| J.2  | All RMSProp Results of classification problems (2/28). . . . .  | 194 |
| J.3  | All RMSProp Results of classification problems (3/28). . . . .  | 195 |
| J.4  | All RMSProp Results of classification problems (4/28). . . . .  | 196 |
| J.5  | All RMSProp Results of classification problems (5/28). . . . .  | 197 |
| J.6  | All RMSProp Results of classification problems (6/28). . . . .  | 198 |
| J.7  | All RMSProp Results of classification problems (7/28). . . . .  | 199 |
| J.8  | All RMSProp Results of classification problems (8/28). . . . .  | 200 |
| J.9  | All RMSProp Results of classification problems (9/28). . . . .  | 201 |
| J.10 | All RMSProp Results of classification problems (10/28). . . . . | 202 |
| J.11 | All RMSProp Results of classification problems (11/28). . . . . | 203 |
| J.12 | All RMSProp Results of classification problems (12/28). . . . . | 204 |
| J.13 | All RMSProp Results of classification problems (13/28). . . . . | 205 |

|      |   |     |
|------|---|-----|
| J.14 | All RMSProp Results of classification problems (14/28). . . . . | 206 |
| J.15 | All RMSProp Results of classification problems (15/28). . . . . | 207 |
| J.16 | All RMSProp Results of classification problems (16/28). . . . . | 208 |
| J.17 | All RMSProp Results of classification problems (17/28). . . . . | 209 |
| J.18 | All RMSProp Results of classification problems (18/28). . . . . | 210 |
| J.19 | All RMSProp Results of classification problems (19/28). . . . . | 211 |
| J.20 | All RMSProp Results of classification problems (20/28). . . . . | 212 |
| J.21 | All RMSProp Results of classification problems (21/28). . . . . | 213 |
| J.22 | All RMSProp Results of classification problems (22/28). . . . . | 214 |
| J.23 | All RMSProp Results of classification problems (23/28). . . . . | 215 |
| J.24 | All RMSProp Results of classification problems (24/28). . . . . | 216 |
| J.25 | All RMSProp Results of classification problems (25/28). . . . . | 217 |
| J.26 | All RMSProp Results of classification problems (26/28). . . . . | 218 |
| J.27 | All RMSProp Results of classification problems (27/28). . . . . | 219 |
| J.28 | All RMSProp Results of classification problems (28/28). . . . . | 220 |

# Appendix A

## 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      |

Table A.1: Regression Problems Summary.



## Appendix B

### 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         |

Table B.1: Classification Problems Summary.



## Appendix C

### CSEEM Regression Results

| Method | Dataset     | Time (s) | Norm Loss | $n_c$ | $k$  | $\phi(\cdot)$ |
|--------|-------------|----------|-----------|-------|------|---------------|
| CSEEM  | abalone     | 661.388  | 0.0383    | 16    | 488  | Tanh          |
| CSEEM  | ANACALT     | 704.827  | 0.00153   | 16    | 175  | Tanh          |
| CSEEM  | autoMPG6    | 380.0    | 0.0281    | 16    | 38   | Tanh          |
| CSEEM  | autoMPG8    | 344.992  | 0.0304    | 16    | 42   | Tanh          |
| CSEEM  | baseball    | 164.992  | 0.126     | 16    | 76   | Tanh          |
| CSEEM  | compactiv   | 206.421  | 0.00459   | 16    | 426  | Tanh          |
| CSEEM  | concrete    | 832.078  | 0.029     | 16    | 128  | Tanh          |
| CSEEM  | dee         | 212.0    | 0.0248    | 16    | 33   | Tanh          |
| CSEEM  | delta_ail   | 708.057  | 0.00549   | 16    | 278  | Tanh          |
| CSEEM  | delta_elv   | 878.838  | 0.00956   | 16    | 367  | Tanh          |
| CSEEM  | diabetes    | 11.986   | 0.06      | 16    | 6    | Tanh          |
| CSEEM  | ele-1       | 547.991  | 0.0627    | 16    | 61   | Tanh          |
| CSEEM  | ele-2       | 409.999  | 0.00379   | 16    | 64   | Tanh          |
| CSEEM  | forestFires | 619.992  | 0.427     | 16    | 270  | Tanh          |
| CSEEM  | friedman    | 524.001  | 0.00884   | 16    | 103  | Tanh          |
| CSEEM  | laser       | 804.999  | 0.00478   | 16    | 61   | Tanh          |
| CSEEM  | machineCPU  | 89.999   | 0.0513    | 16    | 48   | Tanh          |
| CSEEM  | mortgage    | 41.0     | 0.00821   | 16    | 108  | Tanh          |
| CSEEM  | plastic     | 61.063   | 0.0578    | 16    | 61   | Tanh          |
| CSEEM  | puma32h     | 893.523  | 0.0687    | 16    | 1173 | Tanh          |
| CSEEM  | quake       | 27.176   | 0.316     | 16    | 791  | Tanh          |
| CSEEM  | stock       | 988.993  | 0.00804   | 16    | 73   | Tanh          |
| CSEEM  | tic         | 551.734  | 0.375     | 16    | 5443 | Tanh          |
| CSEEM  | treasury    | 836.138  | 0.012     | 16    | 87   | Tanh          |
| CSEEM  | wankara     | 469.001  | 0.00393   | 16    | 78   | Tanh          |
| CSEEM  | wizmir      | 333.001  | 0.00369   | 16    | 86   | Tanh          |

Table C.1: Summary CSEEM Results of regression problems (1/1).



## Appendix D

### RMSProp Regression Summary Results

| Run   | Method  | Dataset               | Time (s) | Norm Loss | Epochs | $k$  | $j$ | $\phi(\cdot)$ |
|-------|---------|-----------------------|----------|-----------|--------|------|-----|---------------|
| Best  | RMSprop | abalone_regression    | 859.36   | 0.0455    | 1000   | 25   | 1   | Tanh          |
| Worst | RMSprop | abalone_regression    | 812.485  | 0.0481    | 1000   | 25   | 1   | Tanh          |
| Best  | RMSprop | aileron_regression    | 683.238  | 172       | 1000   | 20   | 1   | Tanh          |
| Worst | RMSprop | aileron_regression    | 734.35   | 759       | 1000   | 20   | 1   | Tanh          |
| Best  | RMSprop | ANACALT_regression    | 890.61   | 0.0681    | 1000   | 25   | 1   | Tanh          |
| Worst | RMSprop | ANACALT_regression    | 796.86   | 0.0681    | 1000   | 25   | 1   | Tanh          |
| Best  | RMSprop | autoMPG6_regression   | 249.984  | 0.0993    | 1000   | 45   | 1   | Tanh          |
| Worst | RMSprop | autoMPG6_regression   | 171.862  | 0.0995    | 1000   | 45   | 1   | Tanh          |
| Best  | RMSprop | autoMPG8_regression   | 265.612  | 0.0771    | 1000   | 40   | 1   | Tanh          |
| Worst | RMSprop | autoMPG8_regression   | 281.237  | 0.0995    | 1000   | 40   | 1   | Tanh          |
| Best  | RMSprop | baseball_regression   | 234.353  | 0.937     | 1000   | 70   | 1   | Tanh          |
| Worst | RMSprop | baseball_regression   | 249.988  | 0.939     | 1000   | 70   | 1   | Tanh          |
| Best  | RMSprop | california_regression | 187.001  | 0.993     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | california_regression | 530.759  | 0.993     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | compactiv_regression  | 249.983  | 0.747     | 1000   | 10   | 1   | Tanh          |
| Worst | RMSprop | compactiv_regression  | 296.857  | 0.815     | 1000   | 10   | 1   | Tanh          |
| Best  | RMSprop | concrete_regression   | 421.862  | 0.158     | 1000   | 30   | 1   | Tanh          |
| Worst | RMSprop | concrete_regression   | 312.487  | 0.185     | 1000   | 30   | 1   | Tanh          |
| Best  | RMSprop | dee_regression        | 406.237  | 0.0159    | 1000   | 120  | 1   | Tanh          |
| Worst | RMSprop | dee_regression        | 390.612  | 0.02      | 1000   | 120  | 1   | Tanh          |
| Best  | RMSprop | delta_ail_regression  | 15.448   | 0.388     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | delta_ail_regression  | 952.943  | 28.2      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | delta_elv_regression  | 781.003  | 1.21e+04  | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | delta_elv_regression  | 327.869  | 1.98e+04  | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | diabetes_regression   | 171.862  | 0.00756   | 1000   | 10   | 1   | Tanh          |
| Worst | RMSprop | diabetes_regression   | 109.363  | 0.0102    | 1000   | 10   | 1   | Tanh          |
| Best  | RMSprop | ele-1_regression      | 437.487  | 0.917     | 1000   | 100  | 1   | Tanh          |
| Worst | RMSprop | ele-1_regression      | 328.112  | 0.921     | 1000   | 100  | 1   | Tanh          |
| Best  | RMSprop | ele-2_regression      | 203.113  | 0.996     | 1000   | 5    | 1   | Tanh          |
| Worst | RMSprop | ele-2_regression      | 218.749  | 0.997     | 1000   | 5    | 1   | Tanh          |
| Best  | RMSprop | elevators_regression  | 93.363   | 314       | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | elevators_regression  | 452.736  | 419       | 1000   | 1000 | 1   | Tanh          |

Table D.1: RMSprop Results of regression problems (1/2).

| Run   | Method  | Dataset                | Time (s) | Norm Loss | Epochs | $k$  | $j$ | $\phi(\cdot)$ |
|-------|---------|------------------------|----------|-----------|--------|------|-----|---------------|
| Best  | RMSprop | forestFires_regression | 890.615  | 0.872     | 1000   | 400  | 1   | Tanh          |
| Worst | RMSprop | forestFires_regression | 781.235  | 0.881     | 1000   | 400  | 1   | Tanh          |
| Best  | RMSprop | friedman_regression    | 296.87   | 0.0283    | 1000   | 20   | 1   | Tanh          |
| Worst | RMSprop | friedman_regression    | 359.361  | 0.0376    | 1000   | 20   | 1   | Tanh          |
| Best  | RMSprop | house_regression       | 280.722  | 0.981     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | house_regression       | 296.337  | 0.981     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | laser_regression       | 281.238  | 0.724     | 1000   | 10   | 1   | Tanh          |
| Worst | RMSprop | laser_regression       | 281.237  | 0.777     | 1000   | 10   | 1   | Tanh          |
| Best  | RMSprop | machineCPU_regression  | 343.736  | 0.684     | 1000   | 100  | 1   | Tanh          |
| Worst | RMSprop | machineCPU_regression  | 218.738  | 0.699     | 1000   | 100  | 1   | Tanh          |
| Best  | RMSprop | mortgage_regression    | 328.113  | 0.074     | 1000   | 20   | 1   | Tanh          |
| Worst | RMSprop | mortgage_regression    | 374.987  | 0.145     | 1000   | 20   | 1   | Tanh          |
| Best  | RMSprop | mv_regression          | 327.177  | 0.142     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | mv_regression          | 436.551  | 0.169     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | plastic_regression     | 406.237  | 0.0643    | 1000   | 10   | 1   | Tanh          |
| Worst | RMSprop | plastic_regression     | 359.362  | 0.159     | 1000   | 10   | 1   | Tanh          |
| Best  | RMSprop | pole_regression        | 671.513  | 0.02      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | pole_regression        | 749.636  | 0.021     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | puma32h_regression     | 921.455  | 70.1      | 1000   | 2000 | 1   | Tanh          |
| Worst | RMSprop | puma32h_regression     | 952.708  | 271       | 1000   | 2000 | 1   | Tanh          |
| Best  | RMSprop | quake_regression       | 281.221  | 0.178     | 1000   | 1    | 1   | Tanh          |
| Worst | RMSprop | quake_regression       | 281.237  | 0.585     | 1000   | 1    | 1   | Tanh          |
| Best  | RMSprop | stock_regression       | 265.612  | 0.7       | 1000   | 5    | 1   | Tanh          |
| Worst | RMSprop | stock_regression       | 218.724  | 0.773     | 1000   | 5    | 1   | Tanh          |
| Best  | RMSprop | tic_regression         | 983.828  | 1.11      | 1000   | 2000 | 1   | Tanh          |
| Worst | RMSprop | tic_regression         | 655.705  | 14.4      | 1000   | 2000 | 1   | Tanh          |
| Best  | RMSprop | treasury_regression    | 296.861  | 0.155     | 1000   | 20   | 1   | Tanh          |
| Worst | RMSprop | treasury_regression    | 296.862  | 0.168     | 1000   | 20   | 1   | Tanh          |
| Best  | RMSprop | wankara_regression     | 234.364  | 0.873     | 1000   | 1    | 1   | Tanh          |
| Worst | RMSprop | wankara_regression     | 312.478  | 0.954     | 1000   | 1    | 1   | Tanh          |
| Best  | RMSprop | wizmir_regression      | 296.849  | 0.889     | 1000   | 1    | 1   | Tanh          |
| Worst | RMSprop | wizmir_regression      | 328.116  | 0.956     | 1000   | 1    | 1   | Tanh          |

Table D.2: RMSprop Results of regression problems (2/2).





## Appendix E

### CSEEM Classification Results

| Method | Dataset        | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ |
|--------|----------------|----------|----------|-------|-----|---------------|
| CSEEM  | appendicitis   | 41.998   | 0.962    | 16    | 37  | Tanh          |
| CSEEM  | australian     | 194.0    | 0.939    | 16    | 232 | Tanh          |
| CSEEM  | automobile     | 110.999  | 0.925    | 16    | 73  | Tanh          |
| CSEEM  | balance        | 34.99    | 0.915    | 16    | 116 | Tanh          |
| CSEEM  | bands          | 350.999  | 0.888    | 16    | 173 | Tanh          |
| CSEEM  | breast         | 383.999  | 0.921    | 16    | 123 | Tanh          |
| CSEEM  | bupa           | 346.0    | 0.913    | 16    | 151 | Tanh          |
| CSEEM  | cleveland      | 213.998  | 0.882    | 16    | 165 | Tanh          |
| CSEEM  | crx            | 272.0    | 0.937    | 16    | 185 | Tanh          |
| CSEEM  | ecoli          | 771.676  | 0.923    | 16    | 113 | Tanh          |
| CSEEM  | flare          | 733.008  | 0.826    | 16    | 269 | Tanh          |
| CSEEM  | german         | 813.001  | 0.904    | 16    | 425 | Tanh          |
| CSEEM  | glass          | 121.998  | 0.874    | 16    | 93  | Tanh          |
| CSEEM  | haberman       | 495.998  | 0.882    | 16    | 97  | Tanh          |
| CSEEM  | hayes_roth     | 52.999   | 0.894    | 16    | 49  | Tanh          |
| CSEEM  | heart          | 269.0    | 0.933    | 16    | 81  | Tanh          |
| CSEEM  | hepatitis      | 19.007   | 0.988    | 16    | 23  | Tanh          |
| CSEEM  | housevotes     | 176.006  | 0.987    | 16    | 43  | Tanh          |
| CSEEM  | ionosphere     | 453.0    | 0.98     | 16    | 96  | Tanh          |
| CSEEM  | iris           | 36.0     | 0.993    | 16    | 13  | Tanh          |
| CSEEM  | led7digit      | 166.989  | 0.78     | 16    | 84  | Tanh          |
| CSEEM  | lymphography   | 17.994   | 0.926    | 16    | 49  | Tanh          |
| CSEEM  | mammographic   | 698.091  | 0.902    | 16    | 238 | Tanh          |
| CSEEM  | monk_2         | 134.997  | 0.998    | 16    | 78  | Tanh          |
| CSEEM  | newthyroid     | 177.0    | 0.986    | 16    | 41  | Tanh          |
| CSEEM  | pima           | 947.0    | 0.905    | 16    | 263 | Tanh          |
| CSEEM  | post_operative | 22.0     | 0.874    | 16    | 42  | Tanh          |
| CSEEM  | saheart        | 342.999  | 0.896    | 16    | 178 | Tanh          |
| CSEEM  | tae            | 129.998  | 0.841    | 16    | 70  | Tanh          |
| CSEEM  | tic_tac_toe    | 440.992  | 0.948    | 16    | 349 | Tanh          |
| CSEEM  | vehicle        | 346.0    | 0.901    | 16    | 288 | Tanh          |
| CSEEM  | vowel          | 545.001  | 0.978    | 16    | 280 | Tanh          |

Table E.1: Summary CSEEM Results of classification problems (1/2).

| Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ |
|--------|-----------|----------|----------|-------|-----|---------------|
| CSEEM  | wine      | 81.999   | 0.972    | 16    | 36  | Tanh          |
| CSEEM  | wisconsin | 767.0    | 0.99     | 16    | 123 | Tanh          |
| CSEEM  | zoo       | 24.992   | 0.98     | 16    | 24  | Tanh          |

Table E.2: Summary CSEEM Results of classification problems (2/2).

## Appendix F

### RMSProp Classification Summary Results

| Run   | Method  | Dataset       | Time (s) | Accuracy | Epochs | $k$  | $j$ | $\phi(\cdot)$ |
|-------|---------|---------------|----------|----------|--------|------|-----|---------------|
| Best  | RMSprop | abalone       | 660.707  | nan      | 1000   | 2000 | 1   | Tanh          |
| Worst | RMSprop | abalone       | 660.707  | nan      | 1000   | 2000 | 1   | Tanh          |
| Best  | RMSprop | adult         | 378.325  | 0.935    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | adult         | 91.244   | 0.937    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | appendicitis  | 749.996  | 0.937    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | appendicitis  | 531.255  | 0.938    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | australian    | 953.118  | 0.902    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | australian    | 775.292  | 0.919    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | automobile    | 281.225  | 0.901    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | automobile    | 843.745  | 0.933    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | balance       | 466.839  | 0.915    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | balance       | 687.466  | 0.915    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | banana        | 516.097  | 0.929    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | banana        | 656.725  | 0.93     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | bands         | 859.369  | 0.917    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | bands         | 609.37   | 0.921    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | breast        | 406.245  | 0.902    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | breast        | 624.973  | 0.905    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | bupa          | 577.404  | 0.905    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | bupa          | 624.996  | 0.916    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | car           | 124.941  | 0.935    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | car           | 734.362  | 0.939    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | chess         | 937.987  | 0.939    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | chess         | 437.382  | 0.949    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | cleveland     | 893.92   | 0.925    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | cleveland     | 688.005  | 0.969    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | coil2000      | 79.097   | 0.967    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | coil2000      | 925.906  | 0.972    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | connect_4     | 543.72   | 0.985    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | connect_4     | 801.637  | 0.991    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | contraceptive | 569.324  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | contraceptive | 569.324  | nan      | 1000   | 1000 | 1   | Tanh          |

Table F.1: RMSprop Results of classification problems (1/5).

| Run   | Method  | Dataset     | Time (s) | Accuracy | Epochs | $k$  | $j$ | $\phi(\cdot)$ |
|-------|---------|-------------|----------|----------|--------|------|-----|---------------|
| Best  | RMSprop | crx         | 84.718   | 0.943    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | crx         | 999.993  | 0.951    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | dermatology | 124.993  | 0.703    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | dermatology | 125.509  | 0.705    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | ecoli       | 609.369  | 1.04     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | ecoli       | 681.104  | 1.06     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | flare       | 797.375  | 0.914    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | flare       | 69.323   | 0.925    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | german      | 944.758  | 0.929    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | german      | 438.526  | 0.947    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | glass       | 871.055  | 0.977    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | glass       | 945.977  | 0.987    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | haberman    | 187.496  | 0.916    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | haberman    | 438.002  | 0.923    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | hayes_roth  | 792.018  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | hayes_roth  | 792.018  | nan      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | heart       | 390.62   | 0.88     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | heart       | 303.395  | 0.883    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | hepatitis   | 718.759  | 0.871    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | hepatitis   | 624.996  | 0.896    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | housevotes  | 171.867  | 0.87     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | housevotes  | 140.62   | 0.87     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | ionosphere  | 279.269  | 0.895    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | ionosphere  | 140.619  | 0.902    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | iris        | 984.893  | 0.897    | 1000   | 50   | 1   | Tanh          |
| Worst | RMSprop | iris        | 743.55   | 0.899    | 1000   | 50   | 1   | Tanh          |
| Best  | RMSprop | kr_vs_k     | 586.044  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | kr_vs_k     | 586.044  | nan      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | led7digit   | 784.793  | 0.727    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | led7digit   | 734.848  | 0.728    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | letter      | 78.93    | 0.874    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | letter      | 180.78   | 0.898    | 1000   | 1000 | 1   | Tanh          |

Table F.2: RMSprop Results of classification problems (2/5).

| Run   | Method  | Dataset         | Time (s) | Accuracy | Epochs | $k$  | $j$ | $\phi(\cdot)$ |
|-------|---------|-----------------|----------|----------|--------|------|-----|---------------|
| Best  | RMSprop | lymphography    | 890.63   | 0.859    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | lymphography    | 930.719  | 0.862    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | magic           | 373.845  | 0.977    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | magic           | 548.29   | 0.981    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | mammographic    | 503.632  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | mammographic    | 503.632  | nan      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | marketing       | 955.628  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | marketing       | 955.628  | nan      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | monk_2          | 999.97   | 0.892    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | monk_2          | 938.479  | 0.893    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | movement_libras | 235.365  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | movement_libras | 235.365  | nan      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | mushroom        | 435.78   | 0.923    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | mushroom        | 908.924  | 0.937    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | newthyroid      | 953.121  | 0.956    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | newthyroid      | 968.745  | 0.957    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | nursery         | 818.062  | 0.948    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | nursery         | 63.113   | 0.961    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | optdigits       | 528.178  | 0.535    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | optdigits       | 562.97   | 0.537    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | page_blocks     | 828.444  | 0.939    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | page_blocks     | 953.6    | 0.948    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | penbased        | 150.406  | 0.58     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | penbased        | 641.58   | 0.602    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | phoneme         | 677.572  | 0.925    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | phoneme         | 312.318  | 0.925    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | pima            | 468.744  | 0.941    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | pima            | 437.493  | 0.951    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | post_operative  | 343.745  | 0.903    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | post_operative  | 641.13   | 0.904    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | ring            | 250.993  | 0.895    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | ring            | 625.264  | 0.897    | 1000   | 1000 | 1   | Tanh          |

Table F.3: RMSprop Results of classification problems (3/5).



| Run   | Method  | Dataset     | Time (s) | Accuracy | Epochs | $k$  | $j$ | $\phi(\cdot)$ |
|-------|---------|-------------|----------|----------|--------|------|-----|---------------|
| Best  | RMSprop | saheart     | 203.117  | 0.913    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | saheart     | 260.196  | 0.931    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | satimage    | 625.284  | 0.86     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | satimage    | 375.996  | 0.878    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | segment     | 315.671  | 0.673    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | segment     | 172.367  | 0.699    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | shuttle     | 600.548  | 0.918    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | shuttle     | 836.804  | 0.927    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | sonar       | 390.619  | 0.94     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | sonar       | 270.839  | 0.942    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | spambase    | 509.154  | 0.969    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | spambase    | 797.353  | 0.973    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | spectfheart | 35.686   | 0.93     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | spectfheart | 922.381  | 0.936    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | splice      | 372.614  | 0.972    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | splice      | 91.413   | 0.975    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | tae         | 859.37   | 0.889    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | tae         | 36.222   | 0.914    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | texture     | 734.842  | 1.02     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | texture     | 632.186  | 1.03     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | thyroid     | 363.237  | 0.979    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | thyroid     | 812.77   | 0.98     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | tic_tac_toe | 580.77   | 0.963    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | tic_tac_toe | 296.866  | 0.971    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | titanic     | 242.777  | 0.916    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | titanic     | 910.961  | 0.916    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | twonorm     | 477.25   | 0.887    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | twonorm     | 612.826  | 0.888    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | vehicle     | 759.388  | 0.865    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | vehicle     | 906.242  | 0.888    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | vowel       | 547.372  | 0.865    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | vowel       | 155.875  | 0.898    | 1000   | 1000 | 1   | Tanh          |

Table F.4: RMSprop Results of classification problems (4/5).

| Run   | Method  | Dataset           | Time (s) | Accuracy | Epochs | $k$  | $j$ | $\phi(\cdot)$ |
|-------|---------|-------------------|----------|----------|--------|------|-----|---------------|
| Best  | RMSprop | wdbc              | 859.368  | 0.883    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | wdbc              | 271.861  | 0.884    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | wine              | 48.442   | 0.915    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | wine              | 875.004  | 0.921    | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | winequality_red   | 318.077  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | winequality_red   | 318.077  | nan      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | winequality_white | 295.067  | nan      | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | winequality_white | 295.067  | nan      | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | wisconsin         | 41.345   | 0.88     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | wisconsin         | 41.8     | 0.88     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | yeast             | 624.986  | 1.03     | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | yeast             | 766.121  | 1.05     | 1000   | 1000 | 1   | Tanh          |
| Best  | RMSprop | zoo               | 750.008  | 0.714    | 1000   | 1000 | 1   | Tanh          |
| Worst | RMSprop | zoo               | 896.212  | 0.717    | 1000   | 1000 | 1   | Tanh          |

Table F.5: RMSprop Results of classification problems (5/5).

## Appendix G

### CSEEM Regression All Results

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | ANACALT | 2.744    | 0.00148   | 8     | 170 | Tanh          |
| 1   | CSEEM  | ANACALT | 26.011   | 0.00234   | 16    | 142 | Tanh          |
| 1   | CSEEM  | ANACALT | 346.251  | 0.00131   | 32    | 170 | Tanh          |
| 1   | CSEEM  | ANACALT | 163.274  | 0.00149   | 8     | 160 | SoftRelu      |
| 1   | CSEEM  | ANACALT | 787.991  | 0.00118   | 16    | 172 | SoftRelu      |
| 1   | CSEEM  | ANACALT | 302.342  | 0.00213   | 32    | 136 | SoftRelu      |
| 1   | CSEEM  | ANACALT | 544.13   | 0.00161   | 8     | 167 | Relu          |
| 1   | CSEEM  | ANACALT | 576.666  | 0.00149   | 16    | 200 | Relu          |
| 1   | CSEEM  | ANACALT | 881.936  | 0.00192   | 32    | 166 | Relu          |
| 1   | CSEEM  | ANACALT | 662.862  | 0.00269   | 8     | 140 | Sigmoid       |
| 1   | CSEEM  | ANACALT | 861.146  | 0.00125   | 16    | 155 | Sigmoid       |
| 1   | CSEEM  | ANACALT | 401.626  | 0.00175   | 32    | 142 | Sigmoid       |
| 1   | CSEEM  | ANACALT | 501.826  | 0.000858  | 8     | 211 | Sin           |
| 1   | CSEEM  | ANACALT | 916.029  | 0.00161   | 16    | 166 | Sin           |
| 1   | CSEEM  | ANACALT | 43.201   | 0.00115   | 32    | 178 | Sin           |
| 2   | CSEEM  | ANACALT | 980.461  | 0.00241   | 8     | 156 | Tanh          |
| 2   | CSEEM  | ANACALT | 581.309  | 0.00167   | 16    | 152 | Tanh          |
| 2   | CSEEM  | ANACALT | 170.745  | 0.00204   | 32    | 151 | Tanh          |
| 2   | CSEEM  | ANACALT | 290.331  | 0.00197   | 8     | 133 | SoftRelu      |
| 2   | CSEEM  | ANACALT | 769.881  | 0.00198   | 16    | 147 | SoftRelu      |
| 2   | CSEEM  | ANACALT | 106.292  | 0.00164   | 32    | 144 | SoftRelu      |
| 2   | CSEEM  | ANACALT | 139.351  | 0.00196   | 8     | 172 | Relu          |
| 2   | CSEEM  | ANACALT | 600.0    | 0.00207   | 16    | 155 | Relu          |
| 2   | CSEEM  | ANACALT | 151.272  | 0.00178   | 32    | 167 | Relu          |
| 2   | CSEEM  | ANACALT | 809.246  | 0.00101   | 8     | 187 | Sigmoid       |
| 2   | CSEEM  | ANACALT | 479.163  | 0.00199   | 16    | 137 | Sigmoid       |
| 2   | CSEEM  | ANACALT | 787.815  | 0.00106   | 32    | 175 | Sigmoid       |
| 2   | CSEEM  | ANACALT | 27.646   | 0.00154   | 8     | 159 | Sin           |
| 2   | CSEEM  | ANACALT | 174.913  | 0.00256   | 16    | 157 | Sin           |
| 2   | CSEEM  | ANACALT | 738.951  | 0.00125   | 32    | 179 | Sin           |
| 3   | CSEEM  | ANACALT | 87.094   | 0.00355   | 8     | 125 | Tanh          |
| 3   | CSEEM  | ANACALT | 992.902  | 0.00161   | 16    | 164 | Tanh          |

Table G.1: All CSEEM Results of regression problems (1/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | ANACALT | 124.672  | 0.00194   | 32    | 153 | Tanh          |
| 3   | CSEEM  | ANACALT | 504.338  | 0.00134   | 8     | 164 | SoftRelu      |
| 3   | CSEEM  | ANACALT | 704.283  | 0.00143   | 16    | 144 | SoftRelu      |
| 3   | CSEEM  | ANACALT | 261.779  | 0.00179   | 32    | 136 | SoftRelu      |
| 3   | CSEEM  | ANACALT | 468.388  | 0.00288   | 8     | 138 | Relu          |
| 3   | CSEEM  | ANACALT | 762.006  | 0.00167   | 16    | 173 | Relu          |
| 3   | CSEEM  | ANACALT | 160.218  | 0.00167   | 32    | 168 | Relu          |
| 3   | CSEEM  | ANACALT | 880.636  | 0.00131   | 8     | 150 | Sigmoid       |
| 3   | CSEEM  | ANACALT | 340.165  | 0.00162   | 16    | 150 | Sigmoid       |
| 3   | CSEEM  | ANACALT | 505.491  | 0.00123   | 32    | 160 | Sigmoid       |
| 3   | CSEEM  | ANACALT | 487.167  | 0.00156   | 8     | 166 | Sin           |
| 3   | CSEEM  | ANACALT | 633.01   | 0.00237   | 16    | 158 | Sin           |
| 3   | CSEEM  | ANACALT | 671.058  | 0.00166   | 32    | 164 | Sin           |
| 4   | CSEEM  | ANACALT | 819.001  | 0.00375   | 8     | 103 | Tanh          |
| 4   | CSEEM  | ANACALT | 704.827  | 0.00153   | 16    | 175 | Tanh          |
| 4   | CSEEM  | ANACALT | 942.503  | 0.00252   | 32    | 140 | Tanh          |
| 4   | CSEEM  | ANACALT | 298.828  | 0.00131   | 8     | 159 | SoftRelu      |
| 4   | CSEEM  | ANACALT | 884.587  | 0.00149   | 16    | 152 | SoftRelu      |
| 4   | CSEEM  | ANACALT | 663.577  | 0.00133   | 32    | 150 | SoftRelu      |
| 4   | CSEEM  | ANACALT | 528.948  | 0.00364   | 8     | 142 | Relu          |
| 4   | CSEEM  | ANACALT | 17.0     | 0.00223   | 16    | 150 | Relu          |
| 4   | CSEEM  | ANACALT | 83.534   | 0.00194   | 32    | 160 | Relu          |
| 4   | CSEEM  | ANACALT | 379.666  | 0.00151   | 8     | 156 | Sigmoid       |
| 4   | CSEEM  | ANACALT | 598.754  | 0.00155   | 16    | 151 | Sigmoid       |
| 4   | CSEEM  | ANACALT | 283.612  | 0.00125   | 32    | 165 | Sigmoid       |
| 4   | CSEEM  | ANACALT | 574.998  | 0.00143   | 8     | 177 | Sin           |
| 4   | CSEEM  | ANACALT | 112.036  | 0.00157   | 16    | 171 | Sin           |
| 4   | CSEEM  | ANACALT | 420.001  | 0.00153   | 32    | 167 | Sin           |
| 5   | CSEEM  | ANACALT | 818.511  | 0.00102   | 8     | 204 | Tanh          |
| 5   | CSEEM  | ANACALT | 478.746  | 0.00196   | 16    | 156 | Tanh          |
| 5   | CSEEM  | ANACALT | 967.737  | 0.00129   | 32    | 178 | Tanh          |
| 5   | CSEEM  | ANACALT | 90.425   | 0.00147   | 8     | 157 | SoftRelu      |

Table G.2: All CSEEM Results of regression problems (2/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | ANACALT | 149.124  | 0.00179   | 16    | 145 | SoftRelu      |
| 5   | CSEEM  | ANACALT | 277.374  | 0.00158   | 32    | 160 | SoftRelu      |
| 5   | CSEEM  | ANACALT | 55.0     | 0.00158   | 8     | 183 | Relu          |
| 5   | CSEEM  | ANACALT | 485.04   | 0.00182   | 16    | 172 | Relu          |
| 5   | CSEEM  | ANACALT | 47.091   | 0.00217   | 32    | 142 | Relu          |
| 5   | CSEEM  | ANACALT | 390.542  | 0.00134   | 8     | 158 | Sigmoid       |
| 5   | CSEEM  | ANACALT | 74.908   | 0.00169   | 16    | 156 | Sigmoid       |
| 5   | CSEEM  | ANACALT | 677.241  | 0.00151   | 32    | 153 | Sigmoid       |
| 5   | CSEEM  | ANACALT | 388.079  | 0.00153   | 8     | 174 | Sin           |
| 5   | CSEEM  | ANACALT | 429.994  | 0.00135   | 16    | 183 | Sin           |
| 5   | CSEEM  | ANACALT | 505.172  | 0.0011    | 32    | 183 | Sin           |
| 1   | CSEEM  | abalone | 747.116  | 0.0413    | 8     | 333 | Tanh          |
| 1   | CSEEM  | abalone | 493.441  | 0.0407    | 16    | 384 | Tanh          |
| 1   | CSEEM  | abalone | 488.342  | 0.0396    | 32    | 420 | Tanh          |
| 1   | CSEEM  | abalone | 793.895  | 0.0398    | 8     | 346 | SoftRelu      |
| 1   | CSEEM  | abalone | 294.555  | 0.0388    | 16    | 398 | SoftRelu      |
| 1   | CSEEM  | abalone | 232.411  | 0.038     | 32    | 432 | SoftRelu      |
| 1   | CSEEM  | abalone | 527.646  | 0.0395    | 8     | 380 | Relu          |
| 1   | CSEEM  | abalone | 633.348  | 0.04      | 16    | 356 | Relu          |
| 1   | CSEEM  | abalone | 819.874  | 0.0403    | 32    | 331 | Relu          |
| 1   | CSEEM  | abalone | 894.27   | 0.0384    | 8     | 421 | Sigmoid       |
| 1   | CSEEM  | abalone | 332.907  | 0.0388    | 16    | 408 | Sigmoid       |
| 1   | CSEEM  | abalone | 837.788  | 0.0389    | 32    | 424 | Sigmoid       |
| 1   | CSEEM  | abalone | 797.365  | 0.0394    | 8     | 543 | Sin           |
| 1   | CSEEM  | abalone | 780.028  | 0.0404    | 16    | 588 | Sin           |
| 1   | CSEEM  | abalone | 799.4    | 0.0413    | 32    | 525 | Sin           |
| 2   | CSEEM  | abalone | 183.571  | 0.0399    | 8     | 424 | Tanh          |
| 2   | CSEEM  | abalone | 955.981  | 0.0403    | 16    | 383 | Tanh          |
| 2   | CSEEM  | abalone | 700.456  | 0.0406    | 32    | 358 | Tanh          |
| 2   | CSEEM  | abalone | 244.371  | 0.0383    | 8     | 419 | SoftRelu      |
| 2   | CSEEM  | abalone | 368.003  | 0.0386    | 16    | 385 | SoftRelu      |
| 2   | CSEEM  | abalone | 962.749  | 0.0387    | 32    | 385 | SoftRelu      |

Table G.3: All CSEEM Results of regression problems (3/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | abalone | 582.761  | 0.0396    | 8     | 413 | Relu          |
| 2   | CSEEM  | abalone | 559.105  | 0.0408    | 16    | 320 | Relu          |
| 2   | CSEEM  | abalone | 303.115  | 0.0385    | 32    | 428 | Relu          |
| 2   | CSEEM  | abalone | 369.178  | 0.0404    | 8     | 333 | Sigmoid       |
| 2   | CSEEM  | abalone | 57.016   | 0.0399    | 16    | 376 | Sigmoid       |
| 2   | CSEEM  | abalone | 206.646  | 0.0399    | 32    | 329 | Sigmoid       |
| 2   | CSEEM  | abalone | 701.938  | 0.0466    | 8     | 421 | Sin           |
| 2   | CSEEM  | abalone | 975.778  | 0.0423    | 16    | 509 | Sin           |
| 2   | CSEEM  | abalone | 984.944  | 0.0426    | 32    | 477 | Sin           |
| 3   | CSEEM  | abalone | 226.688  | 0.042     | 8     | 337 | Tanh          |
| 3   | CSEEM  | abalone | 661.388  | 0.0383    | 16    | 488 | Tanh          |
| 3   | CSEEM  | abalone | 948.216  | 0.0389    | 32    | 465 | Tanh          |
| 3   | CSEEM  | abalone | 857.197  | 0.0379    | 8     | 471 | SoftRelu      |
| 3   | CSEEM  | abalone | 681.587  | 0.0405    | 16    | 324 | SoftRelu      |
| 3   | CSEEM  | abalone | 28.41    | 0.0382    | 32    | 417 | SoftRelu      |
| 3   | CSEEM  | abalone | 527.423  | 0.0392    | 8     | 433 | Relu          |
| 3   | CSEEM  | abalone | 165.891  | 0.0387    | 16    | 437 | Relu          |
| 3   | CSEEM  | abalone | 382.183  | 0.038     | 32    | 450 | Relu          |
| 3   | CSEEM  | abalone | 820.377  | 0.041     | 8     | 309 | Sigmoid       |
| 3   | CSEEM  | abalone | 415.008  | 0.0394    | 16    | 392 | Sigmoid       |
| 3   | CSEEM  | abalone | 683.912  | 0.0383    | 32    | 429 | Sigmoid       |
| 3   | CSEEM  | abalone | 85.295   | 0.0431    | 8     | 493 | Sin           |
| 3   | CSEEM  | abalone | 339.059  | 0.0434    | 16    | 477 | Sin           |
| 3   | CSEEM  | abalone | 849.931  | 0.0425    | 32    | 503 | Sin           |
| 4   | CSEEM  | abalone | 472.211  | 0.0403    | 8     | 381 | Tanh          |
| 4   | CSEEM  | abalone | 447.554  | 0.0393    | 16    | 421 | Tanh          |
| 4   | CSEEM  | abalone | 899.979  | 0.0393    | 32    | 424 | Tanh          |
| 4   | CSEEM  | abalone | 984.425  | 0.0382    | 8     | 423 | SoftRelu      |
| 4   | CSEEM  | abalone | 636.103  | 0.0386    | 16    | 396 | SoftRelu      |
| 4   | CSEEM  | abalone | 238.55   | 0.0378    | 32    | 438 | SoftRelu      |
| 4   | CSEEM  | abalone | 28.746   | 0.0451    | 8     | 108 | Relu          |
| 4   | CSEEM  | abalone | 909.334  | 0.0399    | 16    | 391 | Relu          |

Table G.4: All CSEEM Results of regression problems (4/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | abalone  | 530.101  | 0.0398    | 32    | 370 | Relu          |
| 4   | CSEEM  | abalone  | 117.099  | 0.0413    | 8     | 317 | Sigmoid       |
| 4   | CSEEM  | abalone  | 282.139  | 0.0396    | 16    | 373 | Sigmoid       |
| 4   | CSEEM  | abalone  | 399.593  | 0.0385    | 32    | 430 | Sigmoid       |
| 4   | CSEEM  | abalone  | 657.999  | 0.041     | 8     | 563 | Sin           |
| 4   | CSEEM  | abalone  | 939.47   | 0.0481    | 16    | 356 | Sin           |
| 4   | CSEEM  | abalone  | 951.997  | 0.0453    | 32    | 392 | Sin           |
| 5   | CSEEM  | abalone  | 393.272  | 0.0501    | 8     | 65  | Tanh          |
| 5   | CSEEM  | abalone  | 558.392  | 0.0401    | 16    | 408 | Tanh          |
| 5   | CSEEM  | abalone  | 420.663  | 0.04      | 32    | 410 | Tanh          |
| 5   | CSEEM  | abalone  | 351.455  | 0.0401    | 8     | 322 | SoftRelu      |
| 5   | CSEEM  | abalone  | 874.176  | 0.0392    | 16    | 367 | SoftRelu      |
| 5   | CSEEM  | abalone  | 958.505  | 0.0386    | 32    | 388 | SoftRelu      |
| 5   | CSEEM  | abalone  | 309.772  | 0.0398    | 8     | 365 | Relu          |
| 5   | CSEEM  | abalone  | 334.61   | 0.0398    | 16    | 361 | Relu          |
| 5   | CSEEM  | abalone  | 88.839   | 0.04      | 32    | 359 | Relu          |
| 5   | CSEEM  | abalone  | 72.383   | 0.0392    | 8     | 381 | Sigmoid       |
| 5   | CSEEM  | abalone  | 901.683  | 0.0404    | 16    | 342 | Sigmoid       |
| 5   | CSEEM  | abalone  | 495.656  | 0.0388    | 32    | 402 | Sigmoid       |
| 5   | CSEEM  | abalone  | 188.835  | 0.0408    | 8     | 542 | Sin           |
| 5   | CSEEM  | abalone  | 410.471  | 0.0391    | 16    | 593 | Sin           |
| 5   | CSEEM  | abalone  | 176.467  | 0.0439    | 32    | 422 | Sin           |
| 1   | CSEEM  | autoMPG6 | 115.89   | 0.0274    | 8     | 36  | Tanh          |
| 1   | CSEEM  | autoMPG6 | 172.0    | 0.0306    | 16    | 38  | Tanh          |
| 1   | CSEEM  | autoMPG6 | 654.961  | 0.0282    | 32    | 17  | Tanh          |
| 1   | CSEEM  | autoMPG6 | 116.896  | 0.0266    | 8     | 25  | SoftRelu      |
| 1   | CSEEM  | autoMPG6 | 436.007  | 0.0259    | 16    | 33  | SoftRelu      |
| 1   | CSEEM  | autoMPG6 | 532.572  | 0.0267    | 32    | 29  | SoftRelu      |
| 1   | CSEEM  | autoMPG6 | 113.391  | 0.0238    | 8     | 45  | Relu          |
| 1   | CSEEM  | autoMPG6 | 481.987  | 0.0253    | 16    | 39  | Relu          |
| 1   | CSEEM  | autoMPG6 | 354.183  | 0.0288    | 32    | 34  | Relu          |
| 1   | CSEEM  | autoMPG6 | 149.646  | 0.0288    | 8     | 31  | Sigmoid       |

Table G.5: All CSEEM Results of regression problems (5/61).



| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | autoMPG6 | 126.0    | 0.0294    | 16    | 24  | Sigmoid       |
| 1   | CSEEM  | autoMPG6 | 802.116  | 0.0269    | 32    | 32  | Sigmoid       |
| 1   | CSEEM  | autoMPG6 | 96.787   | 0.0298    | 8     | 53  | Sin           |
| 1   | CSEEM  | autoMPG6 | 118.993  | 0.0393    | 16    | 42  | Sin           |
| 1   | CSEEM  | autoMPG6 | 563.502  | 0.034     | 32    | 37  | Sin           |
| 2   | CSEEM  | autoMPG6 | 63.024   | 0.0365    | 8     | 18  | Tanh          |
| 2   | CSEEM  | autoMPG6 | 380.0    | 0.0281    | 16    | 38  | Tanh          |
| 2   | CSEEM  | autoMPG6 | 886.751  | 0.0288    | 32    | 21  | Tanh          |
| 2   | CSEEM  | autoMPG6 | 208.53   | 0.0265    | 8     | 42  | SoftRelu      |
| 2   | CSEEM  | autoMPG6 | 137.984  | 0.0248    | 16    | 38  | SoftRelu      |
| 2   | CSEEM  | autoMPG6 | 432.314  | 0.0236    | 32    | 43  | SoftRelu      |
| 2   | CSEEM  | autoMPG6 | 13.006   | 0.0301    | 8     | 28  | Relu          |
| 2   | CSEEM  | autoMPG6 | 372.105  | 0.0279    | 16    | 36  | Relu          |
| 2   | CSEEM  | autoMPG6 | 701.849  | 0.0256    | 32    | 37  | Relu          |
| 2   | CSEEM  | autoMPG6 | 193.903  | 0.0265    | 8     | 35  | Sigmoid       |
| 2   | CSEEM  | autoMPG6 | 193.999  | 0.0234    | 16    | 41  | Sigmoid       |
| 2   | CSEEM  | autoMPG6 | 770.857  | 0.0265    | 32    | 34  | Sigmoid       |
| 2   | CSEEM  | autoMPG6 | 58.399   | 0.0351    | 8     | 51  | Sin           |
| 2   | CSEEM  | autoMPG6 | 199.999  | 0.0349    | 16    | 38  | Sin           |
| 2   | CSEEM  | autoMPG6 | 733.092  | 0.0351    | 32    | 35  | Sin           |
| 3   | CSEEM  | autoMPG6 | 118.904  | 0.0325    | 8     | 35  | Tanh          |
| 3   | CSEEM  | autoMPG6 | 69.993   | 0.0297    | 16    | 38  | Tanh          |
| 3   | CSEEM  | autoMPG6 | 178.388  | 0.0228    | 32    | 47  | Tanh          |
| 3   | CSEEM  | autoMPG6 | 104.768  | 0.0274    | 8     | 27  | SoftRelu      |
| 3   | CSEEM  | autoMPG6 | 200.001  | 0.0293    | 16    | 18  | SoftRelu      |
| 3   | CSEEM  | autoMPG6 | 617.207  | 0.0245    | 32    | 37  | SoftRelu      |
| 3   | CSEEM  | autoMPG6 | 161.774  | 0.0325    | 8     | 27  | Relu          |
| 3   | CSEEM  | autoMPG6 | 165.992  | 0.0276    | 16    | 37  | Relu          |
| 3   | CSEEM  | autoMPG6 | 770.866  | 0.0268    | 32    | 36  | Relu          |
| 3   | CSEEM  | autoMPG6 | 188.408  | 0.0283    | 8     | 19  | Sigmoid       |
| 3   | CSEEM  | autoMPG6 | 458.989  | 0.0276    | 16    | 30  | Sigmoid       |
| 3   | CSEEM  | autoMPG6 | 470.07   | 0.0277    | 32    | 38  | Sigmoid       |

Table G.6: All CSEEM Results of regression problems (6/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | autoMPG6 | 123.406  | 0.0265    | 8     | 59  | Sin           |
| 3   | CSEEM  | autoMPG6 | 403.001  | 0.0319    | 16    | 47  | Sin           |
| 3   | CSEEM  | autoMPG6 | 316.42   | 0.0351    | 32    | 43  | Sin           |
| 4   | CSEEM  | autoMPG6 | 32.01    | 0.0296    | 8     | 42  | Tanh          |
| 4   | CSEEM  | autoMPG6 | 280.993  | 0.0298    | 16    | 24  | Tanh          |
| 4   | CSEEM  | autoMPG6 | 550.986  | 0.0274    | 32    | 40  | Tanh          |
| 4   | CSEEM  | autoMPG6 | 104.043  | 0.026     | 8     | 37  | SoftRelu      |
| 4   | CSEEM  | autoMPG6 | 159.992  | 0.0253    | 16    | 26  | SoftRelu      |
| 4   | CSEEM  | autoMPG6 | 868.373  | 0.0263    | 32    | 29  | SoftRelu      |
| 4   | CSEEM  | autoMPG6 | 238.291  | 0.029     | 8     | 24  | Relu          |
| 4   | CSEEM  | autoMPG6 | 224.0    | 0.0263    | 16    | 39  | Relu          |
| 4   | CSEEM  | autoMPG6 | 902.424  | 0.0257    | 32    | 38  | Relu          |
| 4   | CSEEM  | autoMPG6 | 120.999  | 0.0285    | 8     | 30  | Sigmoid       |
| 4   | CSEEM  | autoMPG6 | 307.996  | 0.0274    | 16    | 33  | Sigmoid       |
| 4   | CSEEM  | autoMPG6 | 447.997  | 0.0252    | 32    | 32  | Sigmoid       |
| 4   | CSEEM  | autoMPG6 | 41.998   | 0.0332    | 8     | 51  | Sin           |
| 4   | CSEEM  | autoMPG6 | 391.991  | 0.0336    | 16    | 30  | Sin           |
| 4   | CSEEM  | autoMPG6 | 780.0    | 0.0262    | 32    | 53  | Sin           |
| 5   | CSEEM  | autoMPG6 | 177.255  | 0.0284    | 8     | 35  | Tanh          |
| 5   | CSEEM  | autoMPG6 | 231.008  | 0.0287    | 16    | 36  | Tanh          |
| 5   | CSEEM  | autoMPG6 | 601.729  | 0.0311    | 32    | 19  | Tanh          |
| 5   | CSEEM  | autoMPG6 | 114.0    | 0.0276    | 8     | 27  | SoftRelu      |
| 5   | CSEEM  | autoMPG6 | 287.005  | 0.0269    | 16    | 25  | SoftRelu      |
| 5   | CSEEM  | autoMPG6 | 696.999  | 0.0255    | 32    | 29  | SoftRelu      |
| 5   | CSEEM  | autoMPG6 | 98.301   | 0.0274    | 8     | 32  | Relu          |
| 5   | CSEEM  | autoMPG6 | 360.99   | 0.0281    | 16    | 35  | Relu          |
| 5   | CSEEM  | autoMPG6 | 372.998  | 0.0271    | 32    | 33  | Relu          |
| 5   | CSEEM  | autoMPG6 | 105.839  | 0.0264    | 8     | 31  | Sigmoid       |
| 5   | CSEEM  | autoMPG6 | 155.0    | 0.0237    | 16    | 44  | Sigmoid       |
| 5   | CSEEM  | autoMPG6 | 553.997  | 0.0254    | 32    | 40  | Sigmoid       |
| 5   | CSEEM  | autoMPG6 | 86.992   | 0.0389    | 8     | 38  | Sin           |
| 5   | CSEEM  | autoMPG6 | 362.0    | 0.0347    | 16    | 24  | Sin           |

Table G.7: All CSEEM Results of regression problems (7/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | autoMPG6 | 346.992  | 0.0245    | 32    | 56  | Sin           |
| 1   | CSEEM  | autoMPG8 | 147.137  | 0.0359    | 8     | 34  | Tanh          |
| 1   | CSEEM  | autoMPG8 | 156.0    | 0.0321    | 16    | 35  | Tanh          |
| 1   | CSEEM  | autoMPG8 | 269.543  | 0.0343    | 32    | 36  | Tanh          |
| 1   | CSEEM  | autoMPG8 | 30.142   | 0.0291    | 8     | 31  | SoftRelu      |
| 1   | CSEEM  | autoMPG8 | 198.997  | 0.025     | 16    | 38  | SoftRelu      |
| 1   | CSEEM  | autoMPG8 | 579.453  | 0.0262    | 32    | 35  | SoftRelu      |
| 1   | CSEEM  | autoMPG8 | 138.522  | 0.03      | 8     | 39  | Relu          |
| 1   | CSEEM  | autoMPG8 | 90.999   | 0.0335    | 16    | 36  | Relu          |
| 1   | CSEEM  | autoMPG8 | 802.118  | 0.0276    | 32    | 44  | Relu          |
| 1   | CSEEM  | autoMPG8 | 62.508   | 0.0301    | 8     | 35  | Sigmoid       |
| 1   | CSEEM  | autoMPG8 | 190.991  | 0.0297    | 16    | 41  | Sigmoid       |
| 1   | CSEEM  | autoMPG8 | 398.46   | 0.0294    | 32    | 30  | Sigmoid       |
| 1   | CSEEM  | autoMPG8 | 129.022  | 0.0483    | 8     | 27  | Sin           |
| 1   | CSEEM  | autoMPG8 | 726.993  | 0.0505    | 16    | 49  | Sin           |
| 1   | CSEEM  | autoMPG8 | 211.795  | 0.0391    | 32    | 64  | Sin           |
| 2   | CSEEM  | autoMPG8 | 168.788  | 0.031     | 8     | 51  | Tanh          |
| 2   | CSEEM  | autoMPG8 | 384.999  | 0.032     | 16    | 38  | Tanh          |
| 2   | CSEEM  | autoMPG8 | 701.843  | 0.0298    | 32    | 39  | Tanh          |
| 2   | CSEEM  | autoMPG8 | 15.63    | 0.0259    | 8     | 39  | SoftRelu      |
| 2   | CSEEM  | autoMPG8 | 430.991  | 0.026     | 16    | 43  | SoftRelu      |
| 2   | CSEEM  | autoMPG8 | 371.308  | 0.029     | 32    | 28  | SoftRelu      |
| 2   | CSEEM  | autoMPG8 | 130.021  | 0.0317    | 8     | 35  | Relu          |
| 2   | CSEEM  | autoMPG8 | 111.998  | 0.0329    | 16    | 31  | Relu          |
| 2   | CSEEM  | autoMPG8 | 454.444  | 0.0306    | 32    | 35  | Relu          |
| 2   | CSEEM  | autoMPG8 | 93.653   | 0.0328    | 8     | 35  | Sigmoid       |
| 2   | CSEEM  | autoMPG8 | 258.993  | 0.0259    | 16    | 46  | Sigmoid       |
| 2   | CSEEM  | autoMPG8 | 300.796  | 0.03      | 32    | 34  | Sigmoid       |
| 2   | CSEEM  | autoMPG8 | 259.533  | 0.0542    | 8     | 49  | Sin           |
| 2   | CSEEM  | autoMPG8 | 302.998  | 0.0576    | 16    | 42  | Sin           |
| 2   | CSEEM  | autoMPG8 | 686.222  | 0.033     | 32    | 67  | Sin           |
| 3   | CSEEM  | autoMPG8 | 78.133   | 0.0332    | 8     | 41  | Tanh          |

Table G.8: All CSEEM Results of regression problems (8/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | autoMPG8 | 344.992  | 0.0304    | 16    | 42  | Tanh          |
| 3   | CSEEM  | autoMPG8 | 507.829  | 0.0326    | 32    | 19  | Tanh          |
| 3   | CSEEM  | autoMPG8 | 182.912  | 0.0304    | 8     | 33  | SoftRelu      |
| 3   | CSEEM  | autoMPG8 | 348.002  | 0.0306    | 16    | 21  | SoftRelu      |
| 3   | CSEEM  | autoMPG8 | 949.244  | 0.0261    | 32    | 37  | SoftRelu      |
| 3   | CSEEM  | autoMPG8 | 298.799  | 0.029     | 8     | 40  | Relu          |
| 3   | CSEEM  | autoMPG8 | 608.991  | 0.0313    | 16    | 33  | Relu          |
| 3   | CSEEM  | autoMPG8 | 538.588  | 0.0281    | 32    | 36  | Relu          |
| 3   | CSEEM  | autoMPG8 | 111.392  | 0.0345    | 8     | 27  | Sigmoid       |
| 3   | CSEEM  | autoMPG8 | 331.0    | 0.0329    | 16    | 28  | Sigmoid       |
| 3   | CSEEM  | autoMPG8 | 470.073  | 0.0284    | 32    | 42  | Sigmoid       |
| 3   | CSEEM  | autoMPG8 | 220.161  | 0.062     | 8     | 58  | Sin           |
| 3   | CSEEM  | autoMPG8 | 349.992  | 0.0522    | 16    | 44  | Sin           |
| 3   | CSEEM  | autoMPG8 | 218.262  | 0.0478    | 32    | 46  | Sin           |
| 4   | CSEEM  | autoMPG8 | 203.087  | 0.0331    | 8     | 42  | Tanh          |
| 4   | CSEEM  | autoMPG8 | 353.999  | 0.0351    | 16    | 32  | Tanh          |
| 4   | CSEEM  | autoMPG8 | 764.877  | 0.0332    | 32    | 37  | Tanh          |
| 4   | CSEEM  | autoMPG8 | 129.759  | 0.0245    | 8     | 48  | SoftRelu      |
| 4   | CSEEM  | autoMPG8 | 110.992  | 0.0254    | 16    | 45  | SoftRelu      |
| 4   | CSEEM  | autoMPG8 | 857.797  | 0.0242    | 32    | 45  | SoftRelu      |
| 4   | CSEEM  | autoMPG8 | 110.422  | 0.0354    | 8     | 31  | Relu          |
| 4   | CSEEM  | autoMPG8 | 104.0    | 0.0283    | 16    | 43  | Relu          |
| 4   | CSEEM  | autoMPG8 | 134.242  | 0.0281    | 32    | 39  | Relu          |
| 4   | CSEEM  | autoMPG8 | 189.992  | 0.0327    | 8     | 29  | Sigmoid       |
| 4   | CSEEM  | autoMPG8 | 474.999  | 0.0303    | 16    | 36  | Sigmoid       |
| 4   | CSEEM  | autoMPG8 | 437.006  | 0.0304    | 32    | 27  | Sigmoid       |
| 4   | CSEEM  | autoMPG8 | 185.999  | 0.0577    | 8     | 57  | Sin           |
| 4   | CSEEM  | autoMPG8 | 413.997  | 0.0478    | 16    | 52  | Sin           |
| 4   | CSEEM  | autoMPG8 | 680.999  | 0.0547    | 32    | 35  | Sin           |
| 5   | CSEEM  | autoMPG8 | 223.318  | 0.0376    | 8     | 33  | Tanh          |
| 5   | CSEEM  | autoMPG8 | 70.999   | 0.0351    | 16    | 30  | Tanh          |
| 5   | CSEEM  | autoMPG8 | 661.009  | 0.0344    | 32    | 34  | Tanh          |

Table G.9: All CSEEM Results of regression problems (9/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | autoMPG8 | 314.998  | 0.0285    | 8     | 31  | SoftRelu      |
| 5   | CSEEM  | autoMPG8 | 63.0     | 0.0284    | 16    | 38  | SoftRelu      |
| 5   | CSEEM  | autoMPG8 | 573.001  | 0.0244    | 32    | 38  | SoftRelu      |
| 5   | CSEEM  | autoMPG8 | 98.999   | 0.0272    | 8     | 52  | Relu          |
| 5   | CSEEM  | autoMPG8 | 110.0    | 0.0319    | 16    | 32  | Relu          |
| 5   | CSEEM  | autoMPG8 | 958.51   | 0.0294    | 32    | 36  | Relu          |
| 5   | CSEEM  | autoMPG8 | 65.999   | 0.0297    | 8     | 34  | Sigmoid       |
| 5   | CSEEM  | autoMPG8 | 348.998  | 0.0286    | 16    | 40  | Sigmoid       |
| 5   | CSEEM  | autoMPG8 | 800.999  | 0.0298    | 32    | 36  | Sigmoid       |
| 5   | CSEEM  | autoMPG8 | 117.993  | 0.0382    | 8     | 78  | Sin           |
| 5   | CSEEM  | autoMPG8 | 522.999  | 0.0552    | 16    | 54  | Sin           |
| 5   | CSEEM  | autoMPG8 | 744.999  | 0.0397    | 32    | 61  | Sin           |
| 1   | CSEEM  | baseball | 231.778  | 0.147     | 8     | 56  | Tanh          |
| 1   | CSEEM  | baseball | 231.993  | 0.131     | 16    | 81  | Tanh          |
| 1   | CSEEM  | baseball | 407.562  | 0.126     | 32    | 80  | Tanh          |
| 1   | CSEEM  | baseball | 228.281  | 0.118     | 8     | 52  | SoftRelu      |
| 1   | CSEEM  | baseball | 122.998  | 0.112     | 16    | 65  | SoftRelu      |
| 1   | CSEEM  | baseball | 555.275  | 0.0871    | 32    | 87  | SoftRelu      |
| 1   | CSEEM  | baseball | 288.669  | 0.107     | 8     | 73  | Relu          |
| 1   | CSEEM  | baseball | 404.998  | 0.113     | 16    | 68  | Relu          |
| 1   | CSEEM  | baseball | 619.289  | 0.0834    | 32    | 87  | Relu          |
| 1   | CSEEM  | baseball | 122.394  | 0.116     | 8     | 98  | Sigmoid       |
| 1   | CSEEM  | baseball | 98.993   | 0.127     | 16    | 72  | Sigmoid       |
| 1   | CSEEM  | baseball | 500.944  | 0.128     | 32    | 75  | Sigmoid       |
| 1   | CSEEM  | baseball | 176.271  | 0.283     | 8     | 127 | Sin           |
| 1   | CSEEM  | baseball | 613.993  | 0.244     | 16    | 130 | Sin           |
| 1   | CSEEM  | baseball | 789.106  | 0.275     | 32    | 110 | Sin           |
| 2   | CSEEM  | baseball | 130.519  | 0.152     | 8     | 61  | Tanh          |
| 2   | CSEEM  | baseball | 164.992  | 0.126     | 16    | 76  | Tanh          |
| 2   | CSEEM  | baseball | 55.547   | 0.139     | 32    | 79  | Tanh          |
| 2   | CSEEM  | baseball | 233.282  | 0.119     | 8     | 64  | SoftRelu      |
| 2   | CSEEM  | baseball | 542.001  | 0.0909    | 16    | 86  | SoftRelu      |

Table G.10: All CSEEM Results of regression problems (10/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | baseball | 595.074  | 0.109     | 32    | 61  | SoftRelu      |
| 2   | CSEEM  | baseball | 134.523  | 0.133     | 8     | 58  | Relu          |
| 2   | CSEEM  | baseball | 138.0    | 0.108     | 16    | 79  | Relu          |
| 2   | CSEEM  | baseball | 2.521    | 0.0931    | 32    | 76  | Relu          |
| 2   | CSEEM  | baseball | 177.29   | 0.133     | 8     | 72  | Sigmoid       |
| 2   | CSEEM  | baseball | 443.993  | 0.122     | 16    | 80  | Sigmoid       |
| 2   | CSEEM  | baseball | 654.842  | 0.123     | 32    | 84  | Sigmoid       |
| 2   | CSEEM  | baseball | 60.397   | 0.355     | 8     | 72  | Sin           |
| 2   | CSEEM  | baseball | 437.999  | 0.287     | 16    | 102 | Sin           |
| 2   | CSEEM  | baseball | 933.625  | 0.247     | 32    | 116 | Sin           |
| 3   | CSEEM  | baseball | 144.15   | 0.151     | 8     | 65  | Tanh          |
| 3   | CSEEM  | baseball | 218.001  | 0.134     | 16    | 81  | Tanh          |
| 3   | CSEEM  | baseball | 770.862  | 0.123     | 32    | 99  | Tanh          |
| 3   | CSEEM  | baseball | 188.52   | 0.115     | 8     | 72  | SoftRelu      |
| 3   | CSEEM  | baseball | 613.09   | 0.0859    | 16    | 90  | SoftRelu      |
| 3   | CSEEM  | baseball | 632.843  | 0.108     | 32    | 78  | SoftRelu      |
| 3   | CSEEM  | baseball | 149.148  | 0.152     | 8     | 46  | Relu          |
| 3   | CSEEM  | baseball | 309.993  | 0.123     | 16    | 58  | Relu          |
| 3   | CSEEM  | baseball | 516.95   | 0.098     | 32    | 83  | Relu          |
| 3   | CSEEM  | baseball | 149.644  | 0.119     | 8     | 86  | Sigmoid       |
| 3   | CSEEM  | baseball | 470.991  | 0.123     | 16    | 79  | Sigmoid       |
| 3   | CSEEM  | baseball | 794.965  | 0.131     | 32    | 69  | Sigmoid       |
| 3   | CSEEM  | baseball | 72.516   | 0.36      | 8     | 76  | Sin           |
| 3   | CSEEM  | baseball | 231.06   | 0.276     | 16    | 124 | Sin           |
| 3   | CSEEM  | baseball | 862.914  | 0.211     | 32    | 153 | Sin           |
| 4   | CSEEM  | baseball | 116.363  | 0.138     | 8     | 81  | Tanh          |
| 4   | CSEEM  | baseball | 697.993  | 0.138     | 16    | 77  | Tanh          |
| 4   | CSEEM  | baseball | 640.5    | 0.129     | 32    | 88  | Tanh          |
| 4   | CSEEM  | baseball | 283.024  | 0.0914    | 8     | 89  | SoftRelu      |
| 4   | CSEEM  | baseball | 464.998  | 0.103     | 16    | 70  | SoftRelu      |
| 4   | CSEEM  | baseball | 607.928  | 0.093     | 32    | 83  | SoftRelu      |
| 4   | CSEEM  | baseball | 454.466  | 0.096     | 8     | 81  | Relu          |

Table G.11: All CSEEM Results of regression problems (11/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | baseball  | 461.999  | 0.103     | 16    | 73  | Relu          |
| 4   | CSEEM  | baseball  | 833.383  | 0.103     | 32    | 70  | Relu          |
| 4   | CSEEM  | baseball  | 244.99   | 0.127     | 8     | 81  | Sigmoid       |
| 4   | CSEEM  | baseball  | 693.992  | 0.125     | 16    | 74  | Sigmoid       |
| 4   | CSEEM  | baseball  | 209.537  | 0.105     | 32    | 79  | Sigmoid       |
| 4   | CSEEM  | baseball  | 44.997   | 0.324     | 8     | 98  | Sin           |
| 4   | CSEEM  | baseball  | 521.999  | 0.291     | 16    | 111 | Sin           |
| 4   | CSEEM  | baseball  | 743.997  | 0.238     | 32    | 136 | Sin           |
| 5   | CSEEM  | baseball  | 153.046  | 0.135     | 8     | 87  | Tanh          |
| 5   | CSEEM  | baseball  | 148.993  | 0.132     | 16    | 92  | Tanh          |
| 5   | CSEEM  | baseball  | 801.68   | 0.114     | 32    | 97  | Tanh          |
| 5   | CSEEM  | baseball  | 127.999  | 0.129     | 8     | 52  | SoftRelu      |
| 5   | CSEEM  | baseball  | 284.958  | 0.108     | 16    | 69  | SoftRelu      |
| 5   | CSEEM  | baseball  | 724.548  | 0.1       | 32    | 73  | SoftRelu      |
| 5   | CSEEM  | baseball  | 197.999  | 0.11      | 8     | 75  | Relu          |
| 5   | CSEEM  | baseball  | 446.003  | 0.101     | 16    | 77  | Relu          |
| 5   | CSEEM  | baseball  | 838.999  | 0.102     | 32    | 72  | Relu          |
| 5   | CSEEM  | baseball  | 125.999  | 0.145     | 8     | 51  | Sigmoid       |
| 5   | CSEEM  | baseball  | 354.99   | 0.119     | 16    | 101 | Sigmoid       |
| 5   | CSEEM  | baseball  | 649.0    | 0.0958    | 32    | 99  | Sigmoid       |
| 5   | CSEEM  | baseball  | 180.992  | 0.201     | 8     | 158 | Sin           |
| 5   | CSEEM  | baseball  | 130.998  | 0.335     | 16    | 90  | Sin           |
| 5   | CSEEM  | baseball  | 134.019  | 0.249     | 32    | 96  | Sin           |
| 1   | CSEEM  | compactiv | 692.548  | 0.00634   | 8     | 247 | Tanh          |
| 1   | CSEEM  | compactiv | 604.17   | 0.00549   | 16    | 304 | Tanh          |
| 1   | CSEEM  | compactiv | 613.636  | 0.00509   | 32    | 360 | Tanh          |
| 1   | CSEEM  | compactiv | 956.771  | 0.0019    | 8     | 324 | SoftRelu      |
| 1   | CSEEM  | compactiv | 505.635  | 0.00216   | 16    | 268 | SoftRelu      |
| 1   | CSEEM  | compactiv | 322.823  | 0.00229   | 32    | 206 | SoftRelu      |
| 1   | CSEEM  | compactiv | 177.399  | 0.00186   | 8     | 346 | Relu          |
| 1   | CSEEM  | compactiv | 706.825  | 0.00236   | 16    | 283 | Relu          |
| 1   | CSEEM  | compactiv | 761.084  | 0.00237   | 32    | 249 | Relu          |

Table G.12: All CSEEM Results of regression problems (12/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | compactiv | 191.762  | 0.00424   | 8     | 297 | Sigmoid       |
| 1   | CSEEM  | compactiv | 386.208  | 0.00383   | 16    | 408 | Sigmoid       |
| 1   | CSEEM  | compactiv | 971.533  | 0.0036    | 32    | 369 | Sigmoid       |
| 1   | CSEEM  | compactiv | 556.182  | 0.0228    | 8     | 938 | Sin           |
| 1   | CSEEM  | compactiv | 714.881  | 0.0242    | 16    | 869 | Sin           |
| 1   | CSEEM  | compactiv | 34.042   | 0.0247    | 32    | 836 | Sin           |
| 2   | CSEEM  | compactiv | 289.794  | 0.00436   | 8     | 475 | Tanh          |
| 2   | CSEEM  | compactiv | 790.112  | 0.00466   | 16    | 381 | Tanh          |
| 2   | CSEEM  | compactiv | 842.788  | 0.00471   | 32    | 370 | Tanh          |
| 2   | CSEEM  | compactiv | 736.558  | 0.00205   | 8     | 324 | SoftRelu      |
| 2   | CSEEM  | compactiv | 677.2    | 0.00208   | 16    | 294 | SoftRelu      |
| 2   | CSEEM  | compactiv | 436.562  | 0.00194   | 32    | 276 | SoftRelu      |
| 2   | CSEEM  | compactiv | 635.247  | 0.00211   | 8     | 305 | Relu          |
| 2   | CSEEM  | compactiv | 93.585   | 0.00228   | 16    | 274 | Relu          |
| 2   | CSEEM  | compactiv | 895.995  | 0.0022    | 32    | 282 | Relu          |
| 2   | CSEEM  | compactiv | 249.178  | 0.00514   | 8     | 215 | Sigmoid       |
| 2   | CSEEM  | compactiv | 215.29   | 0.0039    | 16    | 357 | Sigmoid       |
| 2   | CSEEM  | compactiv | 101.0    | 0.00408   | 32    | 300 | Sigmoid       |
| 2   | CSEEM  | compactiv | 320.604  | 0.0268    | 8     | 646 | Sin           |
| 2   | CSEEM  | compactiv | 829.737  | 0.0242    | 16    | 792 | Sin           |
| 2   | CSEEM  | compactiv | 598.466  | 0.0253    | 32    | 658 | Sin           |
| 3   | CSEEM  | compactiv | 661.192  | 0.00515   | 8     | 340 | Tanh          |
| 3   | CSEEM  | compactiv | 392.418  | 0.00498   | 16    | 290 | Tanh          |
| 3   | CSEEM  | compactiv | 146.178  | 0.00466   | 32    | 424 | Tanh          |
| 3   | CSEEM  | compactiv | 658.046  | 0.00156   | 8     | 390 | SoftRelu      |
| 3   | CSEEM  | compactiv | 531.448  | 0.00275   | 16    | 201 | SoftRelu      |
| 3   | CSEEM  | compactiv | 308.634  | 0.00216   | 32    | 261 | SoftRelu      |
| 3   | CSEEM  | compactiv | 668.119  | 0.00212   | 8     | 287 | Relu          |
| 3   | CSEEM  | compactiv | 704.876  | 0.00216   | 16    | 301 | Relu          |
| 3   | CSEEM  | compactiv | 347.041  | 0.00226   | 32    | 258 | Relu          |
| 3   | CSEEM  | compactiv | 236.336  | 0.00367   | 8     | 416 | Sigmoid       |
| 3   | CSEEM  | compactiv | 739.21   | 0.00355   | 16    | 397 | Sigmoid       |

Table G.13: All CSEEM Results of regression problems (13/61).



| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | compactiv | 150.119  | 0.00415   | 32    | 309 | Sigmoid       |
| 3   | CSEEM  | compactiv | 491.918  | 0.0288    | 8     | 454 | Sin           |
| 3   | CSEEM  | compactiv | 240.318  | 0.0228    | 16    | 894 | Sin           |
| 3   | CSEEM  | compactiv | 99.688   | 0.0237    | 32    | 796 | Sin           |
| 4   | CSEEM  | compactiv | 813.548  | 0.00434   | 8     | 477 | Tanh          |
| 4   | CSEEM  | compactiv | 206.421  | 0.00459   | 16    | 426 | Tanh          |
| 4   | CSEEM  | compactiv | 567.165  | 0.00514   | 32    | 318 | Tanh          |
| 4   | CSEEM  | compactiv | 433.958  | 0.00219   | 8     | 266 | SoftRelu      |
| 4   | CSEEM  | compactiv | 13.696   | 0.00327   | 16    | 218 | SoftRelu      |
| 4   | CSEEM  | compactiv | 694.938  | 0.00188   | 32    | 288 | SoftRelu      |
| 4   | CSEEM  | compactiv | 567.818  | 0.00228   | 8     | 286 | Relu          |
| 4   | CSEEM  | compactiv | 602.139  | 0.00227   | 16    | 281 | Relu          |
| 4   | CSEEM  | compactiv | 807.641  | 0.002     | 32    | 312 | Relu          |
| 4   | CSEEM  | compactiv | 560.329  | 0.00471   | 8     | 274 | Sigmoid       |
| 4   | CSEEM  | compactiv | 172.001  | 0.00405   | 16    | 344 | Sigmoid       |
| 4   | CSEEM  | compactiv | 275.863  | 0.00325   | 32    | 427 | Sigmoid       |
| 4   | CSEEM  | compactiv | 448.0    | 0.0233    | 8     | 912 | Sin           |
| 4   | CSEEM  | compactiv | 708.347  | 0.0248    | 16    | 743 | Sin           |
| 4   | CSEEM  | compactiv | 284.998  | 0.0245    | 32    | 754 | Sin           |
| 5   | CSEEM  | compactiv | 847.905  | 0.00552   | 8     | 300 | Tanh          |
| 5   | CSEEM  | compactiv | 646.007  | 0.00533   | 16    | 285 | Tanh          |
| 5   | CSEEM  | compactiv | 590.603  | 0.00453   | 32    | 397 | Tanh          |
| 5   | CSEEM  | compactiv | 527.688  | 0.00175   | 8     | 292 | SoftRelu      |
| 5   | CSEEM  | compactiv | 973.894  | 0.00183   | 16    | 302 | SoftRelu      |
| 5   | CSEEM  | compactiv | 791.841  | 0.00197   | 32    | 298 | SoftRelu      |
| 5   | CSEEM  | compactiv | 655.488  | 0.00242   | 8     | 240 | Relu          |
| 5   | CSEEM  | compactiv | 670.074  | 0.0029    | 16    | 239 | Relu          |
| 5   | CSEEM  | compactiv | 225.578  | 0.00203   | 32    | 302 | Relu          |
| 5   | CSEEM  | compactiv | 236.481  | 0.00384   | 8     | 369 | Sigmoid       |
| 5   | CSEEM  | compactiv | 622.381  | 0.00428   | 16    | 278 | Sigmoid       |
| 5   | CSEEM  | compactiv | 564.786  | 0.00439   | 32    | 284 | Sigmoid       |
| 5   | CSEEM  | compactiv | 830.66   | 0.0271    | 8     | 574 | Sin           |

Table G.14: All CSEEM Results of regression problems (14/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | compactiv | 797.066  | 0.0231    | 16    | 914 | Sin           |
| 5   | CSEEM  | compactiv | 125.14   | 0.0241    | 32    | 851 | Sin           |
| 1   | CSEEM  | concrete  | 554.716  | 0.0304    | 8     | 132 | Tanh          |
| 1   | CSEEM  | concrete  | 832.078  | 0.029     | 16    | 128 | Tanh          |
| 1   | CSEEM  | concrete  | 225.957  | 0.0309    | 32    | 108 | Tanh          |
| 1   | CSEEM  | concrete  | 707.098  | 0.0314    | 8     | 67  | SoftRelu      |
| 1   | CSEEM  | concrete  | 456.999  | 0.0209    | 16    | 97  | SoftRelu      |
| 1   | CSEEM  | concrete  | 617.513  | 0.0216    | 32    | 109 | SoftRelu      |
| 1   | CSEEM  | concrete  | 500.322  | 0.0238    | 8     | 116 | Relu          |
| 1   | CSEEM  | concrete  | 577.993  | 0.0241    | 16    | 108 | Relu          |
| 1   | CSEEM  | concrete  | 58.54    | 0.025     | 32    | 96  | Relu          |
| 1   | CSEEM  | concrete  | 445.329  | 0.0266    | 8     | 110 | Sigmoid       |
| 1   | CSEEM  | concrete  | 523.0    | 0.0278    | 16    | 80  | Sigmoid       |
| 1   | CSEEM  | concrete  | 681.311  | 0.0275    | 32    | 106 | Sigmoid       |
| 1   | CSEEM  | concrete  | 494.704  | 0.0483    | 8     | 121 | Sin           |
| 1   | CSEEM  | concrete  | 100.001  | 0.0405    | 16    | 154 | Sin           |
| 1   | CSEEM  | concrete  | 944.862  | 0.0387    | 32    | 173 | Sin           |
| 2   | CSEEM  | concrete  | 636.86   | 0.0365    | 8     | 113 | Tanh          |
| 2   | CSEEM  | concrete  | 583.995  | 0.0319    | 16    | 111 | Tanh          |
| 2   | CSEEM  | concrete  | 217.034  | 0.0322    | 32    | 112 | Tanh          |
| 2   | CSEEM  | concrete  | 445.333  | 0.023     | 8     | 111 | SoftRelu      |
| 2   | CSEEM  | concrete  | 642.999  | 0.0269    | 16    | 89  | SoftRelu      |
| 2   | CSEEM  | concrete  | 365.627  | 0.0245    | 32    | 83  | SoftRelu      |
| 2   | CSEEM  | concrete  | 408.566  | 0.0262    | 8     | 103 | Relu          |
| 2   | CSEEM  | concrete  | 317.037  | 0.0264    | 16    | 98  | Relu          |
| 2   | CSEEM  | concrete  | 840.424  | 0.0226    | 32    | 120 | Relu          |
| 2   | CSEEM  | concrete  | 840.02   | 0.0291    | 8     | 94  | Sigmoid       |
| 2   | CSEEM  | concrete  | 515.989  | 0.023     | 16    | 125 | Sigmoid       |
| 2   | CSEEM  | concrete  | 345.021  | 0.0251    | 32    | 118 | Sigmoid       |
| 2   | CSEEM  | concrete  | 323.457  | 0.0461    | 8     | 145 | Sin           |
| 2   | CSEEM  | concrete  | 614.996  | 0.0411    | 16    | 158 | Sin           |
| 2   | CSEEM  | concrete  | 520.474  | 0.0428    | 32    | 163 | Sin           |

Table G.15: All CSEEM Results of regression problems (15/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | concrete | 711.49   | 0.0328    | 8     | 114 | Tanh          |
| 3   | CSEEM  | concrete | 519.99   | 0.0336    | 16    | 105 | Tanh          |
| 3   | CSEEM  | concrete | 508.207  | 0.0304    | 32    | 108 | Tanh          |
| 3   | CSEEM  | concrete | 117.395  | 0.0244    | 8     | 108 | SoftRelu      |
| 3   | CSEEM  | concrete | 133.68   | 0.0215    | 16    | 125 | SoftRelu      |
| 3   | CSEEM  | concrete | 341.211  | 0.0247    | 32    | 87  | SoftRelu      |
| 3   | CSEEM  | concrete | 710.864  | 0.0241    | 8     | 103 | Relu          |
| 3   | CSEEM  | concrete | 1.0      | 0.0258    | 16    | 94  | Relu          |
| 3   | CSEEM  | concrete | 792.505  | 0.0253    | 32    | 101 | Relu          |
| 3   | CSEEM  | concrete | 638.652  | 0.0282    | 8     | 124 | Sigmoid       |
| 3   | CSEEM  | concrete | 118.999  | 0.0213    | 16    | 108 | Sigmoid       |
| 3   | CSEEM  | concrete | 254.504  | 0.0243    | 32    | 118 | Sigmoid       |
| 3   | CSEEM  | concrete | 273.696  | 0.0396    | 8     | 171 | Sin           |
| 3   | CSEEM  | concrete | 228.998  | 0.0466    | 16    | 141 | Sin           |
| 3   | CSEEM  | concrete | 160.5    | 0.0412    | 32    | 122 | Sin           |
| 4   | CSEEM  | concrete | 222.589  | 0.0299    | 8     | 138 | Tanh          |
| 4   | CSEEM  | concrete | 125.001  | 0.0314    | 16    | 87  | Tanh          |
| 4   | CSEEM  | concrete | 876.436  | 0.0334    | 32    | 111 | Tanh          |
| 4   | CSEEM  | concrete | 397.566  | 0.0272    | 8     | 98  | SoftRelu      |
| 4   | CSEEM  | concrete | 729.998  | 0.0246    | 16    | 97  | SoftRelu      |
| 4   | CSEEM  | concrete | 915.823  | 0.0246    | 32    | 93  | SoftRelu      |
| 4   | CSEEM  | concrete | 803.983  | 0.0251    | 8     | 113 | Relu          |
| 4   | CSEEM  | concrete | 159.999  | 0.0259    | 16    | 101 | Relu          |
| 4   | CSEEM  | concrete | 637.999  | 0.0274    | 32    | 106 | Relu          |
| 4   | CSEEM  | concrete | 574.713  | 0.0261    | 8     | 112 | Sigmoid       |
| 4   | CSEEM  | concrete | 786.009  | 0.0274    | 16    | 102 | Sigmoid       |
| 4   | CSEEM  | concrete | 837.998  | 0.0234    | 32    | 131 | Sigmoid       |
| 4   | CSEEM  | concrete | 681.999  | 0.0392    | 8     | 171 | Sin           |
| 4   | CSEEM  | concrete | 878.993  | 0.046     | 16    | 128 | Sin           |
| 4   | CSEEM  | concrete | 82.002   | 0.0498    | 32    | 137 | Sin           |
| 5   | CSEEM  | concrete | 981.998  | 0.0303    | 8     | 122 | Tanh          |
| 5   | CSEEM  | concrete | 617.001  | 0.0296    | 16    | 125 | Tanh          |

Table G.16: All CSEEM Results of regression problems (16/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | concrete | 253.226  | 0.0325    | 32    | 105 | Tanh          |
| 5   | CSEEM  | concrete | 527.861  | 0.0216    | 8     | 117 | SoftRelu      |
| 5   | CSEEM  | concrete | 686.0    | 0.0253    | 16    | 98  | SoftRelu      |
| 5   | CSEEM  | concrete | 134.209  | 0.0246    | 32    | 92  | SoftRelu      |
| 5   | CSEEM  | concrete | 416.994  | 0.0241    | 8     | 96  | Relu          |
| 5   | CSEEM  | concrete | 85.992   | 0.0259    | 16    | 106 | Relu          |
| 5   | CSEEM  | concrete | 159.064  | 0.0257    | 32    | 98  | Relu          |
| 5   | CSEEM  | concrete | 240.963  | 0.0269    | 8     | 107 | Sigmoid       |
| 5   | CSEEM  | concrete | 779.989  | 0.0336    | 16    | 88  | Sigmoid       |
| 5   | CSEEM  | concrete | 169.308  | 0.0277    | 32    | 97  | Sigmoid       |
| 5   | CSEEM  | concrete | 296.0    | 0.0432    | 8     | 161 | Sin           |
| 5   | CSEEM  | concrete | 736.991  | 0.031     | 16    | 190 | Sin           |
| 5   | CSEEM  | concrete | 314.993  | 0.046     | 32    | 121 | Sin           |
| 1   | CSEEM  | dee      | 196.53   | 0.0269    | 8     | 13  | Tanh          |
| 1   | CSEEM  | dee      | 100.991  | 0.0274    | 16    | 22  | Tanh          |
| 1   | CSEEM  | dee      | 216.157  | 0.028     | 32    | 24  | Tanh          |
| 1   | CSEEM  | dee      | 158.768  | 0.0238    | 8     | 23  | SoftRelu      |
| 1   | CSEEM  | dee      | 159.999  | 0.0233    | 16    | 28  | SoftRelu      |
| 1   | CSEEM  | dee      | 369.808  | 0.024     | 32    | 25  | SoftRelu      |
| 1   | CSEEM  | dee      | 78.129   | 0.0227    | 8     | 43  | Relu          |
| 1   | CSEEM  | dee      | 94.999   | 0.0243    | 16    | 31  | Relu          |
| 1   | CSEEM  | dee      | 505.829  | 0.0251    | 32    | 19  | Relu          |
| 1   | CSEEM  | dee      | 101.27   | 0.0254    | 8     | 29  | Sigmoid       |
| 1   | CSEEM  | dee      | 233.993  | 0.0243    | 16    | 33  | Sigmoid       |
| 1   | CSEEM  | dee      | 200.529  | 0.0234    | 32    | 23  | Sigmoid       |
| 1   | CSEEM  | dee      | 149.643  | 0.0555    | 8     | 39  | Sin           |
| 1   | CSEEM  | dee      | 430.999  | 0.0388    | 16    | 41  | Sin           |
| 1   | CSEEM  | dee      | 539.082  | 0.0271    | 32    | 34  | Sin           |
| 2   | CSEEM  | dee      | 60.898   | 0.0238    | 8     | 39  | Tanh          |
| 2   | CSEEM  | dee      | 328.992  | 0.0263    | 16    | 20  | Tanh          |
| 2   | CSEEM  | dee      | 585.957  | 0.0259    | 32    | 26  | Tanh          |
| 2   | CSEEM  | dee      | 46.881   | 0.0261    | 8     | 17  | SoftRelu      |

Table G.17: All CSEEM Results of regression problems (17/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | dee     | 150.999  | 0.0242    | 16    | 27  | SoftRelu      |
| 2   | CSEEM  | dee     | 230.166  | 0.0232    | 32    | 28  | SoftRelu      |
| 2   | CSEEM  | dee     | 138.523  | 0.0247    | 8     | 21  | Relu          |
| 2   | CSEEM  | dee     | 208.999  | 0.0242    | 16    | 32  | Relu          |
| 2   | CSEEM  | dee     | 416.682  | 0.0228    | 32    | 33  | Relu          |
| 2   | CSEEM  | dee     | 31.258   | 0.0253    | 8     | 24  | Sigmoid       |
| 2   | CSEEM  | dee     | 110.995  | 0.0237    | 16    | 23  | Sigmoid       |
| 2   | CSEEM  | dee     | 438.014  | 0.024     | 32    | 27  | Sigmoid       |
| 2   | CSEEM  | dee     | 148.144  | 0.0311    | 8     | 38  | Sin           |
| 2   | CSEEM  | dee     | 176.024  | 0.0455    | 16    | 29  | Sin           |
| 2   | CSEEM  | dee     | 438.823  | 0.0279    | 32    | 52  | Sin           |
| 3   | CSEEM  | dee     | 204.534  | 0.024     | 8     | 32  | Tanh          |
| 3   | CSEEM  | dee     | 309.989  | 0.0268    | 16    | 23  | Tanh          |
| 3   | CSEEM  | dee     | 546.942  | 0.0266    | 32    | 23  | Tanh          |
| 3   | CSEEM  | dee     | 115.893  | 0.0243    | 8     | 26  | SoftRelu      |
| 3   | CSEEM  | dee     | 373.0    | 0.0238    | 16    | 26  | SoftRelu      |
| 3   | CSEEM  | dee     | 416.698  | 0.0231    | 32    | 27  | SoftRelu      |
| 3   | CSEEM  | dee     | 157.654  | 0.0226    | 8     | 34  | Relu          |
| 3   | CSEEM  | dee     | 209.001  | 0.023     | 16    | 34  | Relu          |
| 3   | CSEEM  | dee     | 516.954  | 0.0238    | 32    | 26  | Relu          |
| 3   | CSEEM  | dee     | 62.507   | 0.0279    | 8     | 15  | Sigmoid       |
| 3   | CSEEM  | dee     | 258.0    | 0.0232    | 16    | 26  | Sigmoid       |
| 3   | CSEEM  | dee     | 430.699  | 0.0237    | 32    | 30  | Sigmoid       |
| 3   | CSEEM  | dee     | 62.507   | 0.0295    | 8     | 62  | Sin           |
| 3   | CSEEM  | dee     | 150.992  | 0.0399    | 16    | 40  | Sin           |
| 3   | CSEEM  | dee     | 209.533  | 0.0471    | 32    | 19  | Sin           |
| 4   | CSEEM  | dee     | 184.16   | 0.0315    | 8     | 33  | Tanh          |
| 4   | CSEEM  | dee     | 485.003  | 0.0252    | 16    | 26  | Tanh          |
| 4   | CSEEM  | dee     | 383.917  | 0.0239    | 32    | 36  | Tanh          |
| 4   | CSEEM  | dee     | 57.837   | 0.0242    | 8     | 24  | SoftRelu      |
| 4   | CSEEM  | dee     | 289.002  | 0.0241    | 16    | 26  | SoftRelu      |
| 4   | CSEEM  | dee     | 543.447  | 0.0232    | 32    | 27  | SoftRelu      |

Table G.18: All CSEEM Results of regression problems (18/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | dee       | 48.0     | 0.0272    | 8     | 13  | Relu          |
| 4   | CSEEM  | dee       | 171.997  | 0.0272    | 16    | 23  | Relu          |
| 4   | CSEEM  | dee       | 423.999  | 0.0227    | 32    | 34  | Relu          |
| 4   | CSEEM  | dee       | 132.006  | 0.0254    | 8     | 29  | Sigmoid       |
| 4   | CSEEM  | dee       | 416.0    | 0.0224    | 16    | 35  | Sigmoid       |
| 4   | CSEEM  | dee       | 331.991  | 0.0237    | 32    | 31  | Sigmoid       |
| 4   | CSEEM  | dee       | 225.995  | 0.0418    | 8     | 35  | Sin           |
| 4   | CSEEM  | dee       | 216.993  | 0.0437    | 16    | 37  | Sin           |
| 4   | CSEEM  | dee       | 331.999  | 0.0345    | 32    | 45  | Sin           |
| 5   | CSEEM  | dee       | 80.722   | 0.0256    | 8     | 30  | Tanh          |
| 5   | CSEEM  | dee       | 212.0    | 0.0248    | 16    | 33  | Tanh          |
| 5   | CSEEM  | dee       | 285.293  | 0.0263    | 32    | 30  | Tanh          |
| 5   | CSEEM  | dee       | 97.987   | 0.0264    | 8     | 18  | SoftRelu      |
| 5   | CSEEM  | dee       | 158.003  | 0.024     | 16    | 27  | SoftRelu      |
| 5   | CSEEM  | dee       | 304.562  | 0.0233    | 32    | 29  | SoftRelu      |
| 5   | CSEEM  | dee       | 99.996   | 0.0231    | 8     | 30  | Relu          |
| 5   | CSEEM  | dee       | 156.997  | 0.0253    | 16    | 22  | Relu          |
| 5   | CSEEM  | dee       | 414.991  | 0.0243    | 32    | 24  | Relu          |
| 5   | CSEEM  | dee       | 87.993   | 0.0256    | 8     | 25  | Sigmoid       |
| 5   | CSEEM  | dee       | 550.403  | 0.0243    | 16    | 25  | Sigmoid       |
| 5   | CSEEM  | dee       | 240.991  | 0.026     | 32    | 18  | Sigmoid       |
| 5   | CSEEM  | dee       | 115.994  | 0.0348    | 8     | 39  | Sin           |
| 5   | CSEEM  | dee       | 155.999  | 0.0397    | 16    | 37  | Sin           |
| 5   | CSEEM  | dee       | 734.988  | 0.037     | 32    | 40  | Sin           |
| 1   | CSEEM  | delta_ail | 960.069  | 0.00568   | 8     | 223 | Tanh          |
| 1   | CSEEM  | delta_ail | 453.393  | 0.00571   | 16    | 239 | Tanh          |
| 1   | CSEEM  | delta_ail | 975.324  | 0.00567   | 32    | 241 | Tanh          |
| 1   | CSEEM  | delta_ail | 513.778  | 0.00573   | 8     | 113 | SoftRelu      |
| 1   | CSEEM  | delta_ail | 952.113  | 0.00554   | 16    | 178 | SoftRelu      |
| 1   | CSEEM  | delta_ail | 702.658  | 0.00548   | 32    | 202 | SoftRelu      |
| 1   | CSEEM  | delta_ail | 386.403  | 0.00563   | 8     | 199 | Relu          |
| 1   | CSEEM  | delta_ail | 297.154  | 0.00568   | 16    | 172 | Relu          |

Table G.19: All CSEEM Results of regression problems (19/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | delta_ail | 581.887  | 0.00552   | 32    | 224 | Relu          |
| 1   | CSEEM  | delta_ail | 698.323  | 0.00546   | 8     | 254 | Sigmoid       |
| 1   | CSEEM  | delta_ail | 461.81   | 0.00534   | 16    | 277 | Sigmoid       |
| 1   | CSEEM  | delta_ail | 906.808  | 0.00554   | 32    | 186 | Sigmoid       |
| 1   | CSEEM  | delta_ail | 200.739  | 0.00552   | 8     | 305 | Sin           |
| 1   | CSEEM  | delta_ail | 272.782  | 0.00597   | 16    | 231 | Sin           |
| 1   | CSEEM  | delta_ail | 775.829  | 0.00588   | 32    | 228 | Sin           |
| 2   | CSEEM  | delta_ail | 567.301  | 0.00569   | 8     | 239 | Tanh          |
| 2   | CSEEM  | delta_ail | 796.841  | 0.00566   | 16    | 258 | Tanh          |
| 2   | CSEEM  | delta_ail | 482.364  | 0.00576   | 32    | 217 | Tanh          |
| 2   | CSEEM  | delta_ail | 67.561   | 0.00542   | 8     | 230 | SoftRelu      |
| 2   | CSEEM  | delta_ail | 52.037   | 0.00551   | 16    | 172 | SoftRelu      |
| 2   | CSEEM  | delta_ail | 929.689  | 0.00547   | 32    | 225 | SoftRelu      |
| 2   | CSEEM  | delta_ail | 869.743  | 0.00575   | 8     | 135 | Relu          |
| 2   | CSEEM  | delta_ail | 336.965  | 0.00564   | 16    | 163 | Relu          |
| 2   | CSEEM  | delta_ail | 791.844  | 0.00557   | 32    | 202 | Relu          |
| 2   | CSEEM  | delta_ail | 316.144  | 0.00562   | 8     | 204 | Sigmoid       |
| 2   | CSEEM  | delta_ail | 371.124  | 0.00557   | 16    | 192 | Sigmoid       |
| 2   | CSEEM  | delta_ail | 782.862  | 0.00549   | 32    | 226 | Sigmoid       |
| 2   | CSEEM  | delta_ail | 101.797  | 0.00579   | 8     | 306 | Sin           |
| 2   | CSEEM  | delta_ail | 568.445  | 0.00579   | 16    | 270 | Sin           |
| 2   | CSEEM  | delta_ail | 397.812  | 0.00581   | 32    | 245 | Sin           |
| 3   | CSEEM  | delta_ail | 264.539  | 0.00577   | 8     | 183 | Tanh          |
| 3   | CSEEM  | delta_ail | 691.86   | 0.00565   | 16    | 202 | Tanh          |
| 3   | CSEEM  | delta_ail | 440.343  | 0.00574   | 32    | 214 | Tanh          |
| 3   | CSEEM  | delta_ail | 462.139  | 0.00561   | 8     | 151 | SoftRelu      |
| 3   | CSEEM  | delta_ail | 928.983  | 0.00561   | 16    | 142 | SoftRelu      |
| 3   | CSEEM  | delta_ail | 885.056  | 0.00542   | 32    | 228 | SoftRelu      |
| 3   | CSEEM  | delta_ail | 272.517  | 0.00563   | 8     | 202 | Relu          |
| 3   | CSEEM  | delta_ail | 11.835   | 0.00564   | 16    | 180 | Relu          |
| 3   | CSEEM  | delta_ail | 841.327  | 0.00553   | 32    | 192 | Relu          |
| 3   | CSEEM  | delta_ail | 226.096  | 0.00545   | 8     | 218 | Sigmoid       |

Table G.20: All CSEEM Results of regression problems (20/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | delta_ail | 215.063  | 0.0055    | 16    | 234 | Sigmoid       |
| 3   | CSEEM  | delta_ail | 202.799  | 0.00553   | 32    | 213 | Sigmoid       |
| 3   | CSEEM  | delta_ail | 32.362   | 0.00574   | 8     | 311 | Sin           |
| 3   | CSEEM  | delta_ail | 156.431  | 0.00591   | 16    | 298 | Sin           |
| 3   | CSEEM  | delta_ail | 682.582  | 0.00563   | 32    | 271 | Sin           |
| 4   | CSEEM  | delta_ail | 538.088  | 0.00566   | 8     | 283 | Tanh          |
| 4   | CSEEM  | delta_ail | 280.124  | 0.00577   | 16    | 247 | Tanh          |
| 4   | CSEEM  | delta_ail | 422.651  | 0.00568   | 32    | 215 | Tanh          |
| 4   | CSEEM  | delta_ail | 480.803  | 0.00554   | 8     | 203 | SoftRelu      |
| 4   | CSEEM  | delta_ail | 772.194  | 0.00554   | 16    | 185 | SoftRelu      |
| 4   | CSEEM  | delta_ail | 655.79   | 0.00549   | 32    | 202 | SoftRelu      |
| 4   | CSEEM  | delta_ail | 586.781  | 0.00596   | 8     | 84  | Relu          |
| 4   | CSEEM  | delta_ail | 296.042  | 0.00554   | 16    | 217 | Relu          |
| 4   | CSEEM  | delta_ail | 332.229  | 0.00571   | 32    | 142 | Relu          |
| 4   | CSEEM  | delta_ail | 590.504  | 0.00566   | 8     | 152 | Sigmoid       |
| 4   | CSEEM  | delta_ail | 247.432  | 0.00556   | 16    | 211 | Sigmoid       |
| 4   | CSEEM  | delta_ail | 977.446  | 0.00543   | 32    | 212 | Sigmoid       |
| 4   | CSEEM  | delta_ail | 537.998  | 0.00578   | 8     | 289 | Sin           |
| 4   | CSEEM  | delta_ail | 752.377  | 0.00537   | 16    | 344 | Sin           |
| 4   | CSEEM  | delta_ail | 383.563  | 0.00553   | 32    | 262 | Sin           |
| 5   | CSEEM  | delta_ail | 90.699   | 0.0059    | 8     | 227 | Tanh          |
| 5   | CSEEM  | delta_ail | 708.057  | 0.00549   | 16    | 278 | Tanh          |
| 5   | CSEEM  | delta_ail | 705.657  | 0.00563   | 32    | 262 | Tanh          |
| 5   | CSEEM  | delta_ail | 756.155  | 0.00558   | 8     | 186 | SoftRelu      |
| 5   | CSEEM  | delta_ail | 646.367  | 0.00549   | 16    | 211 | SoftRelu      |
| 5   | CSEEM  | delta_ail | 878.374  | 0.00554   | 32    | 197 | SoftRelu      |
| 5   | CSEEM  | delta_ail | 205.176  | 0.00567   | 8     | 162 | Relu          |
| 5   | CSEEM  | delta_ail | 254.515  | 0.00554   | 16    | 217 | Relu          |
| 5   | CSEEM  | delta_ail | 116.142  | 0.00554   | 32    | 202 | Relu          |
| 5   | CSEEM  | delta_ail | 58.961   | 0.00559   | 8     | 201 | Sigmoid       |
| 5   | CSEEM  | delta_ail | 312.775  | 0.00559   | 16    | 217 | Sigmoid       |
| 5   | CSEEM  | delta_ail | 739.035  | 0.00551   | 32    | 207 | Sigmoid       |

Table G.21: All CSEEM Results of regression problems (21/61).



| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | delta_ail | 538.179  | 0.00574   | 8     | 253 | Sin           |
| 5   | CSEEM  | delta_ail | 152.608  | 0.00592   | 16    | 267 | Sin           |
| 5   | CSEEM  | delta_ail | 366.588  | 0.00562   | 32    | 264 | Sin           |
| 1   | CSEEM  | delta_elv | 6.653    | 0.00965   | 8     | 340 | Tanh          |
| 1   | CSEEM  | delta_elv | 447.296  | 0.00961   | 16    | 354 | Tanh          |
| 1   | CSEEM  | delta_elv | 222.361  | 0.00964   | 32    | 329 | Tanh          |
| 1   | CSEEM  | delta_elv | 351.766  | 0.00972   | 8     | 346 | SoftRelu      |
| 1   | CSEEM  | delta_elv | 817.189  | 0.00964   | 16    | 288 | SoftRelu      |
| 1   | CSEEM  | delta_elv | 27.59    | 0.00956   | 32    | 341 | SoftRelu      |
| 1   | CSEEM  | delta_elv | 922.565  | 0.00972   | 8     | 310 | Relu          |
| 1   | CSEEM  | delta_elv | 509.962  | 0.0097    | 16    | 287 | Relu          |
| 1   | CSEEM  | delta_elv | 279.321  | 0.00962   | 32    | 348 | Relu          |
| 1   | CSEEM  | delta_elv | 506.115  | 0.00957   | 8     | 346 | Sigmoid       |
| 1   | CSEEM  | delta_elv | 718.99   | 0.00961   | 16    | 307 | Sigmoid       |
| 1   | CSEEM  | delta_elv | 36.469   | 0.00951   | 32    | 362 | Sigmoid       |
| 1   | CSEEM  | delta_elv | 187.012  | 0.0105    | 8     | 327 | Sin           |
| 1   | CSEEM  | delta_elv | 274.2    | 0.00956   | 16    | 540 | Sin           |
| 1   | CSEEM  | delta_elv | 963.345  | 0.00958   | 32    | 500 | Sin           |
| 2   | CSEEM  | delta_elv | 455.575  | 0.01      | 8     | 155 | Tanh          |
| 2   | CSEEM  | delta_elv | 955.658  | 0.00982   | 16    | 302 | Tanh          |
| 2   | CSEEM  | delta_elv | 911.881  | 0.00968   | 32    | 287 | Tanh          |
| 2   | CSEEM  | delta_elv | 206.131  | 0.00953   | 8     | 357 | SoftRelu      |
| 2   | CSEEM  | delta_elv | 836.404  | 0.00964   | 16    | 292 | SoftRelu      |
| 2   | CSEEM  | delta_elv | 139.073  | 0.00949   | 32    | 388 | SoftRelu      |
| 2   | CSEEM  | delta_elv | 718.044  | 0.00966   | 8     | 333 | Relu          |
| 2   | CSEEM  | delta_elv | 106.141  | 0.00976   | 16    | 281 | Relu          |
| 2   | CSEEM  | delta_elv | 309.082  | 0.00964   | 32    | 320 | Relu          |
| 2   | CSEEM  | delta_elv | 316.867  | 0.0094    | 8     | 405 | Sigmoid       |
| 2   | CSEEM  | delta_elv | 763.496  | 0.00947   | 16    | 392 | Sigmoid       |
| 2   | CSEEM  | delta_elv | 791.02   | 0.00961   | 32    | 320 | Sigmoid       |
| 2   | CSEEM  | delta_elv | 32.133   | 0.00935   | 8     | 752 | Sin           |
| 2   | CSEEM  | delta_elv | 613.156  | 0.0104    | 16    | 370 | Sin           |

Table G.22: All CSEEM Results of regression problems (22/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | delta_elv | 923.181  | 0.00974   | 32    | 474 | Sin           |
| 3   | CSEEM  | delta_elv | 738.261  | 0.00984   | 8     | 256 | Tanh          |
| 3   | CSEEM  | delta_elv | 878.838  | 0.00956   | 16    | 367 | Tanh          |
| 3   | CSEEM  | delta_elv | 169.875  | 0.00967   | 32    | 326 | Tanh          |
| 3   | CSEEM  | delta_elv | 482.445  | 0.00967   | 8     | 298 | SoftRelu      |
| 3   | CSEEM  | delta_elv | 779.457  | 0.00963   | 16    | 312 | SoftRelu      |
| 3   | CSEEM  | delta_elv | 10.936   | 0.00966   | 32    | 312 | SoftRelu      |
| 3   | CSEEM  | delta_elv | 927.272  | 0.00969   | 8     | 272 | Relu          |
| 3   | CSEEM  | delta_elv | 891.823  | 0.0097    | 16    | 311 | Relu          |
| 3   | CSEEM  | delta_elv | 186.203  | 0.00961   | 32    | 343 | Relu          |
| 3   | CSEEM  | delta_elv | 159.07   | 0.00963   | 8     | 288 | Sigmoid       |
| 3   | CSEEM  | delta_elv | 701.43   | 0.00942   | 16    | 401 | Sigmoid       |
| 3   | CSEEM  | delta_elv | 134.177  | 0.00959   | 32    | 331 | Sigmoid       |
| 3   | CSEEM  | delta_elv | 980.425  | 0.0101    | 8     | 400 | Sin           |
| 3   | CSEEM  | delta_elv | 411.321  | 0.0101    | 16    | 432 | Sin           |
| 3   | CSEEM  | delta_elv | 603.235  | 0.00987   | 32    | 404 | Sin           |
| 4   | CSEEM  | delta_elv | 315.967  | 0.0096    | 8     | 392 | Tanh          |
| 4   | CSEEM  | delta_elv | 287.744  | 0.00959   | 16    | 365 | Tanh          |
| 4   | CSEEM  | delta_elv | 465.767  | 0.00966   | 32    | 346 | Tanh          |
| 4   | CSEEM  | delta_elv | 436.782  | 0.00959   | 8     | 339 | SoftRelu      |
| 4   | CSEEM  | delta_elv | 879.579  | 0.00957   | 16    | 358 | SoftRelu      |
| 4   | CSEEM  | delta_elv | 9.135    | 0.00951   | 32    | 361 | SoftRelu      |
| 4   | CSEEM  | delta_elv | 886.625  | 0.00965   | 8     | 392 | Relu          |
| 4   | CSEEM  | delta_elv | 840.079  | 0.0097    | 16    | 331 | Relu          |
| 4   | CSEEM  | delta_elv | 265.686  | 0.00944   | 32    | 409 | Relu          |
| 4   | CSEEM  | delta_elv | 436.888  | 0.00956   | 8     | 356 | Sigmoid       |
| 4   | CSEEM  | delta_elv | 292.247  | 0.00955   | 16    | 344 | Sigmoid       |
| 4   | CSEEM  | delta_elv | 185.493  | 0.00957   | 32    | 324 | Sigmoid       |
| 4   | CSEEM  | delta_elv | 505.892  | 0.0106    | 8     | 313 | Sin           |
| 4   | CSEEM  | delta_elv | 116.073  | 0.0101    | 16    | 374 | Sin           |
| 4   | CSEEM  | delta_elv | 790.888  | 0.00966   | 32    | 455 | Sin           |
| 5   | CSEEM  | delta_elv | 501.449  | 0.00933   | 8     | 467 | Tanh          |

Table G.23: All CSEEM Results of regression problems (23/61).

| Run | Method | Dataset   | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | delta_elv | 373.103  | 0.00971   | 16    | 295 | Tanh          |
| 5   | CSEEM  | delta_elv | 578.84   | 0.00967   | 32    | 314 | Tanh          |
| 5   | CSEEM  | delta_elv | 981.915  | 0.00973   | 8     | 267 | SoftRelu      |
| 5   | CSEEM  | delta_elv | 304.573  | 0.00943   | 16    | 412 | SoftRelu      |
| 5   | CSEEM  | delta_elv | 385.353  | 0.00959   | 32    | 344 | SoftRelu      |
| 5   | CSEEM  | delta_elv | 751.642  | 0.00967   | 8     | 278 | Relu          |
| 5   | CSEEM  | delta_elv | 735.126  | 0.00972   | 16    | 319 | Relu          |
| 5   | CSEEM  | delta_elv | 697.419  | 0.00953   | 32    | 387 | Relu          |
| 5   | CSEEM  | delta_elv | 633.842  | 0.00964   | 8     | 304 | Sigmoid       |
| 5   | CSEEM  | delta_elv | 399.771  | 0.00961   | 16    | 316 | Sigmoid       |
| 5   | CSEEM  | delta_elv | 368.897  | 0.00945   | 32    | 379 | Sigmoid       |
| 5   | CSEEM  | delta_elv | 919.557  | 0.01      | 8     | 453 | Sin           |
| 5   | CSEEM  | delta_elv | 246.765  | 0.0109    | 16    | 305 | Sin           |
| 5   | CSEEM  | delta_elv | 675.308  | 0.00974   | 32    | 455 | Sin           |
| 1   | CSEEM  | diabetes  | 0.0      | 0.0711    | 8     | 6   | Tanh          |
| 1   | CSEEM  | diabetes  | 13.002   | 0.0653    | 16    | 6   | Tanh          |
| 1   | CSEEM  | diabetes  | 31.26    | 0.0677    | 32    | 4   | Tanh          |
| 1   | CSEEM  | diabetes  | 0.0      | 0.0684    | 8     | 5   | SoftRelu      |
| 1   | CSEEM  | diabetes  | 15.021   | 0.0698    | 16    | 5   | SoftRelu      |
| 1   | CSEEM  | diabetes  | 15.636   | 0.0685    | 32    | 4   | SoftRelu      |
| 1   | CSEEM  | diabetes  | 0.0      | 0.0698    | 8     | 6   | Relu          |
| 1   | CSEEM  | diabetes  | 7.995    | 0.078     | 16    | 4   | Relu          |
| 1   | CSEEM  | diabetes  | 42.771   | 0.0742    | 32    | 3   | Relu          |
| 1   | CSEEM  | diabetes  | 0.0      | 0.068     | 8     | 6   | Sigmoid       |
| 1   | CSEEM  | diabetes  | 13.013   | 0.0644    | 16    | 6   | Sigmoid       |
| 1   | CSEEM  | diabetes  | 15.637   | 0.0718    | 32    | 4   | Sigmoid       |
| 1   | CSEEM  | diabetes  | 0.0      | 0.0648    | 8     | 6   | Sin           |
| 1   | CSEEM  | diabetes  | 8.032    | 0.0676    | 16    | 4   | Sin           |
| 1   | CSEEM  | diabetes  | 31.258   | 0.0647    | 32    | 5   | Sin           |
| 2   | CSEEM  | diabetes  | 0.0      | 0.0806    | 8     | 4   | Tanh          |
| 2   | CSEEM  | diabetes  | 11.986   | 0.06      | 16    | 6   | Tanh          |
| 2   | CSEEM  | diabetes  | 31.259   | 0.0657    | 32    | 5   | Tanh          |

Table G.24: All CSEEM Results of regression problems (24/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | diabetes | 0.0      | 0.0729    | 8     | 5   | SoftRelu      |
| 2   | CSEEM  | diabetes | 7.027    | 0.0754    | 16    | 4   | SoftRelu      |
| 2   | CSEEM  | diabetes | 15.632   | 0.0742    | 32    | 3   | SoftRelu      |
| 2   | CSEEM  | diabetes | 0.0      | 0.08      | 8     | 3   | Relu          |
| 2   | CSEEM  | diabetes | 8.027    | 0.0719    | 16    | 4   | Relu          |
| 2   | CSEEM  | diabetes | 31.26    | 0.073     | 32    | 5   | Relu          |
| 2   | CSEEM  | diabetes | 0.0      | 0.0754    | 8     | 3   | Sigmoid       |
| 2   | CSEEM  | diabetes | 19.025   | 0.0672    | 16    | 4   | Sigmoid       |
| 2   | CSEEM  | diabetes | 47.907   | 0.0633    | 32    | 5   | Sigmoid       |
| 2   | CSEEM  | diabetes | 0.0      | 0.0689    | 8     | 4   | Sin           |
| 2   | CSEEM  | diabetes | 13.998   | 0.0689    | 16    | 4   | Sin           |
| 2   | CSEEM  | diabetes | 14.009   | 0.0704    | 32    | 4   | Sin           |
| 3   | CSEEM  | diabetes | 15.622   | 0.0683    | 8     | 5   | Tanh          |
| 3   | CSEEM  | diabetes | 7.028    | 0.0791    | 16    | 4   | Tanh          |
| 3   | CSEEM  | diabetes | 15.635   | 0.0702    | 32    | 5   | Tanh          |
| 3   | CSEEM  | diabetes | 0.0      | 0.0689    | 8     | 4   | SoftRelu      |
| 3   | CSEEM  | diabetes | 8.999    | 0.0701    | 16    | 4   | SoftRelu      |
| 3   | CSEEM  | diabetes | 15.633   | 0.0639    | 32    | 4   | SoftRelu      |
| 3   | CSEEM  | diabetes | 0.0      | 0.0815    | 8     | 4   | Relu          |
| 3   | CSEEM  | diabetes | 20.016   | 0.0626    | 16    | 6   | Relu          |
| 3   | CSEEM  | diabetes | 41.27    | 0.0621    | 32    | 4   | Relu          |
| 3   | CSEEM  | diabetes | 0.0      | 0.0659    | 8     | 5   | Sigmoid       |
| 3   | CSEEM  | diabetes | 17.022   | 0.0621    | 16    | 5   | Sigmoid       |
| 3   | CSEEM  | diabetes | 12.006   | 0.0628    | 32    | 6   | Sigmoid       |
| 3   | CSEEM  | diabetes | 0.0      | 0.069     | 8     | 5   | Sin           |
| 3   | CSEEM  | diabetes | 12.036   | 0.0672    | 16    | 6   | Sin           |
| 3   | CSEEM  | diabetes | 15.627   | 0.0645    | 32    | 4   | Sin           |
| 4   | CSEEM  | diabetes | 5.041    | 0.0765    | 8     | 4   | Tanh          |
| 4   | CSEEM  | diabetes | 7.996    | 0.0793    | 16    | 2   | Tanh          |
| 4   | CSEEM  | diabetes | 14.996   | 0.0703    | 32    | 4   | Tanh          |
| 4   | CSEEM  | diabetes | 0.0      | 0.0709    | 8     | 5   | SoftRelu      |
| 4   | CSEEM  | diabetes | 8.033    | 0.0738    | 16    | 2   | SoftRelu      |

Table G.25: All CSEEM Results of regression problems (25/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | diabetes | 46.915   | 0.0651    | 32    | 5   | SoftRelu      |
| 4   | CSEEM  | diabetes | 4.025    | 0.0808    | 8     | 3   | Relu          |
| 4   | CSEEM  | diabetes | 8.024    | 0.0584    | 16    | 5   | Relu          |
| 4   | CSEEM  | diabetes | 14.021   | 0.0688    | 32    | 4   | Relu          |
| 4   | CSEEM  | diabetes | 7.963    | 0.0714    | 8     | 5   | Sigmoid       |
| 4   | CSEEM  | diabetes | 10.999   | 0.0663    | 16    | 5   | Sigmoid       |
| 4   | CSEEM  | diabetes | 15.035   | 0.0624    | 32    | 5   | Sigmoid       |
| 4   | CSEEM  | diabetes | 8.031    | 0.0667    | 8     | 5   | Sin           |
| 4   | CSEEM  | diabetes | 20.0     | 0.0663    | 16    | 5   | Sin           |
| 4   | CSEEM  | diabetes | 22.618   | 0.0698    | 32    | 4   | Sin           |
| 5   | CSEEM  | diabetes | 6.031    | 0.0759    | 8     | 3   | Tanh          |
| 5   | CSEEM  | diabetes | 12.0     | 0.0686    | 16    | 3   | Tanh          |
| 5   | CSEEM  | diabetes | 14.979   | 0.0694    | 32    | 4   | Tanh          |
| 5   | CSEEM  | diabetes | 10.999   | 0.0639    | 8     | 6   | SoftRelu      |
| 5   | CSEEM  | diabetes | 11.028   | 0.0683    | 16    | 5   | SoftRelu      |
| 5   | CSEEM  | diabetes | 24.757   | 0.0648    | 32    | 3   | SoftRelu      |
| 5   | CSEEM  | diabetes | 5.999    | 0.063     | 8     | 7   | Relu          |
| 5   | CSEEM  | diabetes | 7.997    | 0.0656    | 16    | 5   | Relu          |
| 5   | CSEEM  | diabetes | 20.999   | 0.0691    | 32    | 5   | Relu          |
| 5   | CSEEM  | diabetes | 5.999    | 0.0724    | 8     | 5   | Sigmoid       |
| 5   | CSEEM  | diabetes | 7.997    | 0.0749    | 16    | 4   | Sigmoid       |
| 5   | CSEEM  | diabetes | 23.001   | 0.069     | 32    | 4   | Sigmoid       |
| 5   | CSEEM  | diabetes | 4.031    | 0.0674    | 8     | 5   | Sin           |
| 5   | CSEEM  | diabetes | 7.001    | 0.0665    | 16    | 6   | Sin           |
| 5   | CSEEM  | diabetes | 22.006   | 0.0635    | 32    | 4   | Sin           |
| 1   | CSEEM  | ele-1    | 81.637   | 0.0656    | 8     | 50  | Tanh          |
| 1   | CSEEM  | ele-1    | 209.992  | 0.0656    | 16    | 51  | Tanh          |
| 1   | CSEEM  | ele-1    | 617.211  | 0.0618    | 32    | 58  | Tanh          |
| 1   | CSEEM  | ele-1    | 147.138  | 0.0625    | 8     | 61  | SoftRelu      |
| 1   | CSEEM  | ele-1    | 280.992  | 0.0613    | 16    | 65  | SoftRelu      |
| 1   | CSEEM  | ele-1    | 432.307  | 0.0654    | 32    | 48  | SoftRelu      |
| 1   | CSEEM  | ele-1    | 31.252   | 0.0678    | 8     | 57  | Relu          |

Table G.26: All CSEEM Results of regression problems (26/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | ele-1   | 504.988  | 0.061     | 16    | 71  | Relu          |
| 1   | CSEEM  | ele-1   | 554.566  | 0.0628    | 32    | 62  | Relu          |
| 1   | CSEEM  | ele-1   | 131.51   | 0.0645    | 8     | 51  | Sigmoid       |
| 1   | CSEEM  | ele-1   | 634.007  | 0.0627    | 16    | 55  | Sigmoid       |
| 1   | CSEEM  | ele-1   | 416.688  | 0.0631    | 32    | 54  | Sigmoid       |
| 1   | CSEEM  | ele-1   | 132.018  | 0.0623    | 8     | 54  | Sin           |
| 1   | CSEEM  | ele-1   | 184.999  | 0.0639    | 16    | 47  | Sin           |
| 1   | CSEEM  | ele-1   | 623.722  | 0.0647    | 32    | 45  | Sin           |
| 2   | CSEEM  | ele-1   | 171.781  | 0.0673    | 8     | 45  | Tanh          |
| 2   | CSEEM  | ele-1   | 263.992  | 0.0645    | 16    | 51  | Tanh          |
| 2   | CSEEM  | ele-1   | 516.941  | 0.0645    | 32    | 59  | Tanh          |
| 2   | CSEEM  | ele-1   | 115.894  | 0.0699    | 8     | 39  | SoftRelu      |
| 2   | CSEEM  | ele-1   | 226.997  | 0.0657    | 16    | 49  | SoftRelu      |
| 2   | CSEEM  | ele-1   | 617.207  | 0.0647    | 32    | 50  | SoftRelu      |
| 2   | CSEEM  | ele-1   | 115.901  | 0.0729    | 8     | 47  | Relu          |
| 2   | CSEEM  | ele-1   | 334.993  | 0.0657    | 16    | 51  | Relu          |
| 2   | CSEEM  | ele-1   | 401.059  | 0.0657    | 32    | 54  | Relu          |
| 2   | CSEEM  | ele-1   | 200.529  | 0.0636    | 8     | 56  | Sigmoid       |
| 2   | CSEEM  | ele-1   | 463.0    | 0.0642    | 16    | 45  | Sigmoid       |
| 2   | CSEEM  | ele-1   | 686.219  | 0.0611    | 32    | 62  | Sigmoid       |
| 2   | CSEEM  | ele-1   | 178.398  | 0.0629    | 8     | 52  | Sin           |
| 2   | CSEEM  | ele-1   | 469.994  | 0.064     | 16    | 45  | Sin           |
| 2   | CSEEM  | ele-1   | 438.829  | 0.0638    | 32    | 48  | Sin           |
| 3   | CSEEM  | ele-1   | 416.678  | 0.0635    | 8     | 61  | Tanh          |
| 3   | CSEEM  | ele-1   | 531.988  | 0.0646    | 16    | 53  | Tanh          |
| 3   | CSEEM  | ele-1   | 939.143  | 0.0645    | 32    | 56  | Tanh          |
| 3   | CSEEM  | ele-1   | 243.789  | 0.0676    | 8     | 41  | SoftRelu      |
| 3   | CSEEM  | ele-1   | 375.016  | 0.0701    | 16    | 38  | SoftRelu      |
| 3   | CSEEM  | ele-1   | 359.299  | 0.0648    | 32    | 54  | SoftRelu      |
| 3   | CSEEM  | ele-1   | 200.53   | 0.0709    | 8     | 36  | Relu          |
| 3   | CSEEM  | ele-1   | 167.997  | 0.0693    | 16    | 48  | Relu          |
| 3   | CSEEM  | ele-1   | 347.676  | 0.0681    | 32    | 59  | Relu          |

Table G.27: All CSEEM Results of regression problems (27/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | ele-1   | 332.037  | 0.0634    | 8     | 52  | Sigmoid       |
| 3   | CSEEM  | ele-1   | 463.992  | 0.0619    | 16    | 60  | Sigmoid       |
| 3   | CSEEM  | ele-1   | 967.021  | 0.0637    | 32    | 52  | Sigmoid       |
| 3   | CSEEM  | ele-1   | 162.655  | 0.0641    | 8     | 45  | Sin           |
| 3   | CSEEM  | ele-1   | 490.008  | 0.0642    | 16    | 45  | Sin           |
| 3   | CSEEM  | ele-1   | 695.341  | 0.0645    | 32    | 40  | Sin           |
| 4   | CSEEM  | ele-1   | 117.821  | 0.0672    | 8     | 42  | Tanh          |
| 4   | CSEEM  | ele-1   | 200.992  | 0.0691    | 16    | 43  | Tanh          |
| 4   | CSEEM  | ele-1   | 375.378  | 0.0654    | 32    | 53  | Tanh          |
| 4   | CSEEM  | ele-1   | 209.734  | 0.0659    | 8     | 49  | SoftRelu      |
| 4   | CSEEM  | ele-1   | 306.993  | 0.0635    | 16    | 54  | SoftRelu      |
| 4   | CSEEM  | ele-1   | 931.912  | 0.0636    | 32    | 55  | SoftRelu      |
| 4   | CSEEM  | ele-1   | 221.964  | 0.0737    | 8     | 51  | Relu          |
| 4   | CSEEM  | ele-1   | 225.999  | 0.0664    | 16    | 58  | Relu          |
| 4   | CSEEM  | ele-1   | 698.985  | 0.0693    | 32    | 48  | Relu          |
| 4   | CSEEM  | ele-1   | 195.975  | 0.0602    | 8     | 64  | Sigmoid       |
| 4   | CSEEM  | ele-1   | 361.0    | 0.0647    | 16    | 46  | Sigmoid       |
| 4   | CSEEM  | ele-1   | 521.993  | 0.0642    | 32    | 44  | Sigmoid       |
| 4   | CSEEM  | ele-1   | 142.747  | 0.0622    | 8     | 54  | Sin           |
| 4   | CSEEM  | ele-1   | 416.0    | 0.0627    | 16    | 53  | Sin           |
| 4   | CSEEM  | ele-1   | 799.991  | 0.0638    | 32    | 45  | Sin           |
| 5   | CSEEM  | ele-1   | 210.966  | 0.0648    | 8     | 54  | Tanh          |
| 5   | CSEEM  | ele-1   | 547.991  | 0.0627    | 16    | 61  | Tanh          |
| 5   | CSEEM  | ele-1   | 909.008  | 0.0595    | 32    | 66  | Tanh          |
| 5   | CSEEM  | ele-1   | 285.604  | 0.0658    | 8     | 50  | SoftRelu      |
| 5   | CSEEM  | ele-1   | 233.998  | 0.0678    | 16    | 47  | SoftRelu      |
| 5   | CSEEM  | ele-1   | 981.564  | 0.0639    | 32    | 54  | SoftRelu      |
| 5   | CSEEM  | ele-1   | 37.0     | 0.0697    | 8     | 49  | Relu          |
| 5   | CSEEM  | ele-1   | 176.988  | 0.0668    | 16    | 66  | Relu          |
| 5   | CSEEM  | ele-1   | 502.001  | 0.0665    | 32    | 64  | Relu          |
| 5   | CSEEM  | ele-1   | 463.0    | 0.0676    | 8     | 36  | Sigmoid       |
| 5   | CSEEM  | ele-1   | 334.999  | 0.0645    | 16    | 49  | Sigmoid       |

Table G.28: All CSEEM Results of regression problems (28/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | ele-1   | 665.494  | 0.0633    | 32    | 52  | Sigmoid       |
| 5   | CSEEM  | ele-1   | 222.997  | 0.0643    | 8     | 42  | Sin           |
| 5   | CSEEM  | ele-1   | 340.992  | 0.062     | 16    | 56  | Sin           |
| 5   | CSEEM  | ele-1   | 701.0    | 0.0646    | 32    | 42  | Sin           |
| 1   | CSEEM  | ele-2   | 502.605  | 0.00301   | 8     | 59  | Tanh          |
| 1   | CSEEM  | ele-2   | 971.993  | 0.0053    | 16    | 16  | Tanh          |
| 1   | CSEEM  | ele-2   | 42.453   | 0.00311   | 32    | 61  | Tanh          |
| 1   | CSEEM  | ele-2   | 208.043  | 0.00206   | 8     | 27  | SoftRelu      |
| 1   | CSEEM  | ele-2   | 247.0    | 0.00221   | 16    | 23  | SoftRelu      |
| 1   | CSEEM  | ele-2   | 286.549  | 0.00202   | 32    | 20  | SoftRelu      |
| 1   | CSEEM  | ele-2   | 933.636  | 0.0048    | 8     | 16  | Relu          |
| 1   | CSEEM  | ele-2   | 533.993  | 0.00199   | 16    | 42  | Relu          |
| 1   | CSEEM  | ele-2   | 874.619  | 0.00179   | 32    | 38  | Relu          |
| 1   | CSEEM  | ele-2   | 226.668  | 0.00251   | 8     | 53  | Sigmoid       |
| 1   | CSEEM  | ele-2   | 119.999  | 0.00243   | 16    | 34  | Sigmoid       |
| 1   | CSEEM  | ele-2   | 881.272  | 0.00301   | 32    | 37  | Sigmoid       |
| 1   | CSEEM  | ele-2   | 395.573  | 0.00312   | 8     | 58  | Sin           |
| 1   | CSEEM  | ele-2   | 190.003  | 0.00307   | 16    | 60  | Sin           |
| 1   | CSEEM  | ele-2   | 813.107  | 0.00303   | 32    | 62  | Sin           |
| 2   | CSEEM  | ele-2   | 421.539  | 0.00221   | 8     | 70  | Tanh          |
| 2   | CSEEM  | ele-2   | 155.988  | 0.00399   | 16    | 54  | Tanh          |
| 2   | CSEEM  | ele-2   | 719.295  | 0.00471   | 32    | 40  | Tanh          |
| 2   | CSEEM  | ele-2   | 153.156  | 0.00146   | 8     | 48  | SoftRelu      |
| 2   | CSEEM  | ele-2   | 831.999  | 0.00219   | 16    | 33  | SoftRelu      |
| 2   | CSEEM  | ele-2   | 967.293  | 0.00201   | 32    | 32  | SoftRelu      |
| 2   | CSEEM  | ele-2   | 699.855  | 0.00257   | 8     | 29  | Relu          |
| 2   | CSEEM  | ele-2   | 764.002  | 0.00192   | 16    | 48  | Relu          |
| 2   | CSEEM  | ele-2   | 373.616  | 0.00191   | 32    | 36  | Relu          |
| 2   | CSEEM  | ele-2   | 384.437  | 0.00216   | 8     | 45  | Sigmoid       |
| 2   | CSEEM  | ele-2   | 391.998  | 0.00282   | 16    | 46  | Sigmoid       |
| 2   | CSEEM  | ele-2   | 945.557  | 0.00216   | 32    | 32  | Sigmoid       |
| 2   | CSEEM  | ele-2   | 442.709  | 0.00156   | 8     | 84  | Sin           |

Table G.29: All CSEEM Results of regression problems (29/61).



| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | ele-2   | 850.03   | 0.00326   | 16    | 58  | Sin           |
| 2   | CSEEM  | ele-2   | 486.24   | 0.00372   | 32    | 55  | Sin           |
| 3   | CSEEM  | ele-2   | 270.047  | 0.012     | 8     | 34  | Tanh          |
| 3   | CSEEM  | ele-2   | 437.001  | 0.00539   | 16    | 40  | Tanh          |
| 3   | CSEEM  | ele-2   | 154.324  | 0.00308   | 32    | 57  | Tanh          |
| 3   | CSEEM  | ele-2   | 220.669  | 0.00251   | 8     | 33  | SoftRelu      |
| 3   | CSEEM  | ele-2   | 133.0    | 0.0025    | 16    | 26  | SoftRelu      |
| 3   | CSEEM  | ele-2   | 992.045  | 0.00216   | 32    | 28  | SoftRelu      |
| 3   | CSEEM  | ele-2   | 545.59   | 0.00214   | 8     | 52  | Relu          |
| 3   | CSEEM  | ele-2   | 759.997  | 0.0021    | 16    | 35  | Relu          |
| 3   | CSEEM  | ele-2   | 37.818   | 0.00258   | 32    | 24  | Relu          |
| 3   | CSEEM  | ele-2   | 123.399  | 0.00492   | 8     | 32  | Sigmoid       |
| 3   | CSEEM  | ele-2   | 127.997  | 0.0019    | 16    | 47  | Sigmoid       |
| 3   | CSEEM  | ele-2   | 474.9    | 0.00242   | 32    | 40  | Sigmoid       |
| 3   | CSEEM  | ele-2   | 78.13    | 0.0107    | 8     | 50  | Sin           |
| 3   | CSEEM  | ele-2   | 190.993  | 0.00518   | 16    | 61  | Sin           |
| 3   | CSEEM  | ele-2   | 767.137  | 0.00591   | 32    | 52  | Sin           |
| 4   | CSEEM  | ele-2   | 488.468  | 0.00429   | 8     | 46  | Tanh          |
| 4   | CSEEM  | ele-2   | 669.0    | 0.00456   | 16    | 37  | Tanh          |
| 4   | CSEEM  | ele-2   | 709.557  | 0.00251   | 32    | 50  | Tanh          |
| 4   | CSEEM  | ele-2   | 352.822  | 0.00201   | 8     | 25  | SoftRelu      |
| 4   | CSEEM  | ele-2   | 518.0    | 0.00234   | 16    | 33  | SoftRelu      |
| 4   | CSEEM  | ele-2   | 294.989  | 0.00179   | 32    | 33  | SoftRelu      |
| 4   | CSEEM  | ele-2   | 469.164  | 0.00178   | 8     | 51  | Relu          |
| 4   | CSEEM  | ele-2   | 610.993  | 0.002     | 16    | 35  | Relu          |
| 4   | CSEEM  | ele-2   | 539.623  | 0.00181   | 32    | 40  | Relu          |
| 4   | CSEEM  | ele-2   | 777.993  | 0.00499   | 8     | 25  | Sigmoid       |
| 4   | CSEEM  | ele-2   | 676.999  | 0.00365   | 16    | 32  | Sigmoid       |
| 4   | CSEEM  | ele-2   | 591.992  | 0.00185   | 32    | 40  | Sigmoid       |
| 4   | CSEEM  | ele-2   | 461.999  | 0.00196   | 8     | 62  | Sin           |
| 4   | CSEEM  | ele-2   | 899.0    | 0.00241   | 16    | 66  | Sin           |
| 4   | CSEEM  | ele-2   | 907.988  | 0.00355   | 32    | 49  | Sin           |

Table G.30: All CSEEM Results of regression problems (30/61).

| Run | Method | Dataset     | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-------------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | ele-2       | 692.801  | 0.00284   | 8     | 50  | Tanh          |
| 5   | CSEEM  | ele-2       | 409.999  | 0.00379   | 16    | 64  | Tanh          |
| 5   | CSEEM  | ele-2       | 310.175  | 0.00208   | 32    | 61  | Tanh          |
| 5   | CSEEM  | ele-2       | 328.537  | 0.00176   | 8     | 33  | SoftRelu      |
| 5   | CSEEM  | ele-2       | 188.0    | 0.00224   | 16    | 34  | SoftRelu      |
| 5   | CSEEM  | ele-2       | 781.164  | 0.00173   | 32    | 35  | SoftRelu      |
| 5   | CSEEM  | ele-2       | 102.998  | 0.00298   | 8     | 24  | Relu          |
| 5   | CSEEM  | ele-2       | 446.991  | 0.00246   | 16    | 24  | Relu          |
| 5   | CSEEM  | ele-2       | 22.0     | 0.00265   | 32    | 25  | Relu          |
| 5   | CSEEM  | ele-2       | 595.992  | 0.00313   | 8     | 34  | Sigmoid       |
| 5   | CSEEM  | ele-2       | 507.396  | 0.00211   | 16    | 37  | Sigmoid       |
| 5   | CSEEM  | ele-2       | 82.991   | 0.00193   | 32    | 49  | Sigmoid       |
| 5   | CSEEM  | ele-2       | 269.997  | 0.00269   | 8     | 73  | Sin           |
| 5   | CSEEM  | ele-2       | 904.999  | 0.00335   | 16    | 55  | Sin           |
| 5   | CSEEM  | ele-2       | 68.461   | 0.00245   | 32    | 66  | Sin           |
| 1   | CSEEM  | forestFires | 437.177  | 0.46      | 8     | 283 | Tanh          |
| 1   | CSEEM  | forestFires | 977.998  | 0.468     | 16    | 238 | Tanh          |
| 1   | CSEEM  | forestFires | 817.481  | 0.516     | 32    | 259 | Tanh          |
| 1   | CSEEM  | forestFires | 548.188  | 0.509     | 8     | 260 | SoftRelu      |
| 1   | CSEEM  | forestFires | 904.15   | 0.432     | 16    | 307 | SoftRelu      |
| 1   | CSEEM  | forestFires | 795.832  | 0.485     | 32    | 292 | SoftRelu      |
| 1   | CSEEM  | forestFires | 417.389  | 0.552     | 8     | 240 | Relu          |
| 1   | CSEEM  | forestFires | 515.993  | 0.465     | 16    | 283 | Relu          |
| 1   | CSEEM  | forestFires | 239.29   | 0.481     | 32    | 267 | Relu          |
| 1   | CSEEM  | forestFires | 162.773  | 0.723     | 8     | 175 | Sigmoid       |
| 1   | CSEEM  | forestFires | 796.0    | 0.444     | 16    | 302 | Sigmoid       |
| 1   | CSEEM  | forestFires | 303.043  | 0.378     | 32    | 323 | Sigmoid       |
| 1   | CSEEM  | forestFires | 576.576  | 0.369     | 8     | 299 | Sin           |
| 1   | CSEEM  | forestFires | 727.993  | 0.506     | 16    | 225 | Sin           |
| 1   | CSEEM  | forestFires | 722.069  | 0.412     | 32    | 277 | Sin           |
| 2   | CSEEM  | forestFires | 184.907  | 0.692     | 8     | 151 | Tanh          |
| 2   | CSEEM  | forestFires | 684.017  | 0.475     | 16    | 284 | Tanh          |

Table G.31: All CSEEM Results of regression problems (31/61).

| Run | Method | Dataset     | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-------------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | forestFires | 528.177  | 0.449     | 32    | 269 | Tanh          |
| 2   | CSEEM  | forestFires | 202.035  | 0.763     | 8     | 135 | SoftRelu      |
| 2   | CSEEM  | forestFires | 414.0    | 0.641     | 16    | 223 | SoftRelu      |
| 2   | CSEEM  | forestFires | 955.756  | 0.408     | 32    | 314 | SoftRelu      |
| 2   | CSEEM  | forestFires | 427.312  | 0.441     | 8     | 294 | Relu          |
| 2   | CSEEM  | forestFires | 252.992  | 0.396     | 16    | 307 | Relu          |
| 2   | CSEEM  | forestFires | 261.47   | 0.446     | 32    | 289 | Relu          |
| 2   | CSEEM  | forestFires | 522.958  | 0.753     | 8     | 123 | Sigmoid       |
| 2   | CSEEM  | forestFires | 1.0      | 0.266     | 16    | 368 | Sigmoid       |
| 2   | CSEEM  | forestFires | 659.712  | 0.454     | 32    | 289 | Sigmoid       |
| 2   | CSEEM  | forestFires | 701.852  | 0.449     | 8     | 247 | Sin           |
| 2   | CSEEM  | forestFires | 87.001   | 0.46      | 16    | 256 | Sin           |
| 2   | CSEEM  | forestFires | 886.744  | 0.365     | 32    | 304 | Sin           |
| 3   | CSEEM  | forestFires | 133.522  | 0.604     | 8     | 173 | Tanh          |
| 3   | CSEEM  | forestFires | 615.992  | 0.511     | 16    | 231 | Tanh          |
| 3   | CSEEM  | forestFires | 942.343  | 0.496     | 32    | 256 | Tanh          |
| 3   | CSEEM  | forestFires | 184.905  | 0.372     | 8     | 382 | SoftRelu      |
| 3   | CSEEM  | forestFires | 226.528  | 0.477     | 16    | 284 | SoftRelu      |
| 3   | CSEEM  | forestFires | 434.778  | 0.445     | 32    | 304 | SoftRelu      |
| 3   | CSEEM  | forestFires | 332.04   | 0.638     | 8     | 196 | Relu          |
| 3   | CSEEM  | forestFires | 42.994   | 0.484     | 16    | 265 | Relu          |
| 3   | CSEEM  | forestFires | 10.415   | 0.496     | 32    | 251 | Relu          |
| 3   | CSEEM  | forestFires | 403.059  | 0.427     | 8     | 309 | Sigmoid       |
| 3   | CSEEM  | forestFires | 290.994  | 0.434     | 16    | 309 | Sigmoid       |
| 3   | CSEEM  | forestFires | 798.38   | 0.403     | 32    | 317 | Sigmoid       |
| 3   | CSEEM  | forestFires | 252.424  | 0.389     | 8     | 293 | Sin           |
| 3   | CSEEM  | forestFires | 940.992  | 0.375     | 16    | 293 | Sin           |
| 3   | CSEEM  | forestFires | 711.974  | 0.536     | 32    | 206 | Sin           |
| 4   | CSEEM  | forestFires | 906.179  | 0.48      | 8     | 256 | Tanh          |
| 4   | CSEEM  | forestFires | 619.992  | 0.427     | 16    | 270 | Tanh          |
| 4   | CSEEM  | forestFires | 792.312  | 0.417     | 32    | 292 | Tanh          |
| 4   | CSEEM  | forestFires | 794.303  | 0.514     | 8     | 295 | SoftRelu      |

Table G.32: All CSEEM Results of regression problems (32/61).

| Run | Method | Dataset     | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|-------------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | forestFires | 167.0    | 0.44      | 16    | 316 | SoftRelu      |
| 4   | CSEEM  | forestFires | 353.131  | 0.529     | 32    | 258 | SoftRelu      |
| 4   | CSEEM  | forestFires | 768.957  | 0.53      | 8     | 263 | Relu          |
| 4   | CSEEM  | forestFires | 911.993  | 0.51      | 16    | 277 | Relu          |
| 4   | CSEEM  | forestFires | 31.104   | 0.497     | 32    | 272 | Relu          |
| 4   | CSEEM  | forestFires | 570.992  | 0.507     | 8     | 278 | Sigmoid       |
| 4   | CSEEM  | forestFires | 294.999  | 0.528     | 16    | 250 | Sigmoid       |
| 4   | CSEEM  | forestFires | 508.991  | 0.49      | 32    | 283 | Sigmoid       |
| 4   | CSEEM  | forestFires | 510.0    | 0.498     | 8     | 251 | Sin           |
| 4   | CSEEM  | forestFires | 189.999  | 0.379     | 16    | 307 | Sin           |
| 4   | CSEEM  | forestFires | 677.001  | 0.44      | 32    | 259 | Sin           |
| 5   | CSEEM  | forestFires | 460.999  | 0.483     | 8     | 263 | Tanh          |
| 5   | CSEEM  | forestFires | 463.0    | 0.515     | 16    | 236 | Tanh          |
| 5   | CSEEM  | forestFires | 717.849  | 0.409     | 32    | 284 | Tanh          |
| 5   | CSEEM  | forestFires | 493.543  | 0.418     | 8     | 331 | SoftRelu      |
| 5   | CSEEM  | forestFires | 826.996  | 0.642     | 16    | 210 | SoftRelu      |
| 5   | CSEEM  | forestFires | 294.135  | 0.502     | 32    | 276 | SoftRelu      |
| 5   | CSEEM  | forestFires | 537.999  | 0.404     | 8     | 311 | Relu          |
| 5   | CSEEM  | forestFires | 66.992   | 0.504     | 16    | 248 | Relu          |
| 5   | CSEEM  | forestFires | 553.001  | 0.486     | 32    | 272 | Relu          |
| 5   | CSEEM  | forestFires | 413.995  | 0.371     | 8     | 346 | Sigmoid       |
| 5   | CSEEM  | forestFires | 316.998  | 0.527     | 16    | 254 | Sigmoid       |
| 5   | CSEEM  | forestFires | 519.059  | 0.49      | 32    | 267 | Sigmoid       |
| 5   | CSEEM  | forestFires | 530.999  | 0.598     | 8     | 195 | Sin           |
| 5   | CSEEM  | forestFires | 880.004  | 0.38      | 16    | 299 | Sin           |
| 5   | CSEEM  | forestFires | 731.987  | 0.376     | 32    | 306 | Sin           |
| 1   | CSEEM  | friedman    | 1.079    | 0.0106    | 8     | 97  | Tanh          |
| 1   | CSEEM  | friedman    | 338.0    | 0.00975   | 16    | 88  | Tanh          |
| 1   | CSEEM  | friedman    | 981.206  | 0.0152    | 32    | 66  | Tanh          |
| 1   | CSEEM  | friedman    | 827.581  | 0.00768   | 8     | 58  | SoftRelu      |
| 1   | CSEEM  | friedman    | 675.001  | 0.00902   | 16    | 57  | SoftRelu      |
| 1   | CSEEM  | friedman    | 4.125    | 0.00766   | 32    | 61  | SoftRelu      |

Table G.33: All CSEEM Results of regression problems (33/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | friedman | 664.092  | 0.0087    | 8     | 60  | Relu          |
| 1   | CSEEM  | friedman | 383.0    | 0.0102    | 16    | 43  | Relu          |
| 1   | CSEEM  | friedman | 259.218  | 0.00848   | 32    | 68  | Relu          |
| 1   | CSEEM  | friedman | 187.545  | 0.00778   | 8     | 72  | Sigmoid       |
| 1   | CSEEM  | friedman | 860.0    | 0.00848   | 16    | 78  | Sigmoid       |
| 1   | CSEEM  | friedman | 850.63   | 0.00931   | 32    | 71  | Sigmoid       |
| 1   | CSEEM  | friedman | 356.6    | 0.0117    | 8     | 97  | Sin           |
| 1   | CSEEM  | friedman | 66.994   | 0.0105    | 16    | 92  | Sin           |
| 1   | CSEEM  | friedman | 954.259  | 0.00883   | 32    | 104 | Sin           |
| 2   | CSEEM  | friedman | 162.767  | 0.00822   | 8     | 88  | Tanh          |
| 2   | CSEEM  | friedman | 868.991  | 0.0105    | 16    | 88  | Tanh          |
| 2   | CSEEM  | friedman | 723.995  | 0.0122    | 32    | 43  | Tanh          |
| 2   | CSEEM  | friedman | 251.095  | 0.0101    | 8     | 56  | SoftRelu      |
| 2   | CSEEM  | friedman | 990.997  | 0.00795   | 16    | 72  | SoftRelu      |
| 2   | CSEEM  | friedman | 454.988  | 0.00775   | 32    | 54  | SoftRelu      |
| 2   | CSEEM  | friedman | 303.307  | 0.0107    | 8     | 49  | Relu          |
| 2   | CSEEM  | friedman | 410.997  | 0.0083    | 16    | 70  | Relu          |
| 2   | CSEEM  | friedman | 456.369  | 0.00894   | 32    | 42  | Relu          |
| 2   | CSEEM  | friedman | 914.209  | 0.01      | 8     | 62  | Sigmoid       |
| 2   | CSEEM  | friedman | 529.999  | 0.00879   | 16    | 84  | Sigmoid       |
| 2   | CSEEM  | friedman | 584.675  | 0.00778   | 32    | 62  | Sigmoid       |
| 2   | CSEEM  | friedman | 539.092  | 0.0134    | 8     | 84  | Sin           |
| 2   | CSEEM  | friedman | 740.993  | 0.0124    | 16    | 95  | Sin           |
| 2   | CSEEM  | friedman | 722.754  | 0.013     | 32    | 70  | Sin           |
| 3   | CSEEM  | friedman | 403.389  | 0.0116    | 8     | 100 | Tanh          |
| 3   | CSEEM  | friedman | 524.001  | 0.00884   | 16    | 103 | Tanh          |
| 3   | CSEEM  | friedman | 464.599  | 0.0106    | 32    | 91  | Tanh          |
| 3   | CSEEM  | friedman | 871.143  | 0.0073    | 8     | 61  | SoftRelu      |
| 3   | CSEEM  | friedman | 911.027  | 0.00844   | 16    | 55  | SoftRelu      |
| 3   | CSEEM  | friedman | 726.118  | 0.00839   | 32    | 61  | SoftRelu      |
| 3   | CSEEM  | friedman | 629.341  | 0.0108    | 8     | 66  | Relu          |
| 3   | CSEEM  | friedman | 997.0    | 0.00999   | 16    | 75  | Relu          |

Table G.34: All CSEEM Results of regression problems (34/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | friedman | 735.297  | 0.00842   | 32    | 55  | Relu          |
| 3   | CSEEM  | friedman | 939.147  | 0.00691   | 8     | 96  | Sigmoid       |
| 3   | CSEEM  | friedman | 346.028  | 0.00732   | 16    | 103 | Sigmoid       |
| 3   | CSEEM  | friedman | 294.97   | 0.00935   | 32    | 67  | Sigmoid       |
| 3   | CSEEM  | friedman | 845.54   | 0.0141    | 8     | 89  | Sin           |
| 3   | CSEEM  | friedman | 148.995  | 0.00968   | 16    | 93  | Sin           |
| 3   | CSEEM  | friedman | 40.228   | 0.00957   | 32    | 101 | Sin           |
| 4   | CSEEM  | friedman | 579.619  | 0.0109    | 8     | 74  | Tanh          |
| 4   | CSEEM  | friedman | 624.999  | 0.0107    | 16    | 113 | Tanh          |
| 4   | CSEEM  | friedman | 392.98   | 0.0115    | 32    | 60  | Tanh          |
| 4   | CSEEM  | friedman | 795.424  | 0.00884   | 8     | 44  | SoftRelu      |
| 4   | CSEEM  | friedman | 951.0    | 0.00821   | 16    | 78  | SoftRelu      |
| 4   | CSEEM  | friedman | 507.644  | 0.00879   | 32    | 45  | SoftRelu      |
| 4   | CSEEM  | friedman | 430.0    | 0.0103    | 8     | 45  | Relu          |
| 4   | CSEEM  | friedman | 253.003  | 0.00691   | 16    | 82  | Relu          |
| 4   | CSEEM  | friedman | 984.297  | 0.0086    | 32    | 64  | Relu          |
| 4   | CSEEM  | friedman | 76.998   | 0.00924   | 8     | 77  | Sigmoid       |
| 4   | CSEEM  | friedman | 631.0    | 0.00994   | 16    | 62  | Sigmoid       |
| 4   | CSEEM  | friedman | 565.996  | 0.00889   | 32    | 61  | Sigmoid       |
| 4   | CSEEM  | friedman | 755.0    | 0.0115    | 8     | 104 | Sin           |
| 4   | CSEEM  | friedman | 508.0    | 0.0118    | 16    | 110 | Sin           |
| 4   | CSEEM  | friedman | 283.999  | 0.00945   | 32    | 103 | Sin           |
| 5   | CSEEM  | friedman | 645.107  | 0.0085    | 8     | 117 | Tanh          |
| 5   | CSEEM  | friedman | 922.0    | 0.0109    | 16    | 87  | Tanh          |
| 5   | CSEEM  | friedman | 920.717  | 0.0124    | 32    | 54  | Tanh          |
| 5   | CSEEM  | friedman | 307.0    | 0.00835   | 8     | 59  | SoftRelu      |
| 5   | CSEEM  | friedman | 853.0    | 0.00933   | 16    | 46  | SoftRelu      |
| 5   | CSEEM  | friedman | 323.016  | 0.0062    | 32    | 82  | SoftRelu      |
| 5   | CSEEM  | friedman | 309.0    | 0.0104    | 8     | 72  | Relu          |
| 5   | CSEEM  | friedman | 970.0    | 0.011     | 16    | 59  | Relu          |
| 5   | CSEEM  | friedman | 187.525  | 0.00852   | 32    | 72  | Relu          |
| 5   | CSEEM  | friedman | 491.998  | 0.00916   | 8     | 64  | Sigmoid       |

Table G.35: All CSEEM Results of regression problems (35/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | friedman | 345.0    | 0.00929   | 16    | 64  | Sigmoid       |
| 5   | CSEEM  | friedman | 635.888  | 0.00778   | 32    | 75  | Sigmoid       |
| 5   | CSEEM  | friedman | 212.992  | 0.0159    | 8     | 120 | Sin           |
| 5   | CSEEM  | friedman | 434.998  | 0.0126    | 16    | 93  | Sin           |
| 5   | CSEEM  | friedman | 974.064  | 0.0126    | 32    | 83  | Sin           |
| 1   | CSEEM  | laser    | 332.043  | 0.00525   | 8     | 68  | Tanh          |
| 1   | CSEEM  | laser    | 804.999  | 0.00478   | 16    | 61  | Tanh          |
| 1   | CSEEM  | laser    | 619.271  | 0.00714   | 32    | 52  | Tanh          |
| 1   | CSEEM  | laser    | 114.394  | 0.00431   | 8     | 46  | SoftRelu      |
| 1   | CSEEM  | laser    | 763.001  | 0.0049    | 16    | 37  | SoftRelu      |
| 1   | CSEEM  | laser    | 541.31   | 0.00417   | 32    | 42  | SoftRelu      |
| 1   | CSEEM  | laser    | 200.53   | 0.00696   | 8     | 44  | Relu          |
| 1   | CSEEM  | laser    | 48.999   | 0.00575   | 16    | 68  | Relu          |
| 1   | CSEEM  | laser    | 36.556   | 0.00471   | 32    | 53  | Relu          |
| 1   | CSEEM  | laser    | 431.319  | 0.00548   | 8     | 40  | Sigmoid       |
| 1   | CSEEM  | laser    | 694.999  | 0.00459   | 16    | 47  | Sigmoid       |
| 1   | CSEEM  | laser    | 904.302  | 0.0041    | 32    | 45  | Sigmoid       |
| 1   | CSEEM  | laser    | 187.904  | 0.0174    | 8     | 28  | Sin           |
| 1   | CSEEM  | laser    | 746.991  | 0.00442   | 16    | 66  | Sin           |
| 1   | CSEEM  | laser    | 474.546  | 0.00399   | 32    | 64  | Sin           |
| 2   | CSEEM  | laser    | 425.503  | 0.00695   | 8     | 62  | Tanh          |
| 2   | CSEEM  | laser    | 656.992  | 0.00536   | 16    | 60  | Tanh          |
| 2   | CSEEM  | laser    | 234.238  | 0.00648   | 32    | 41  | Tanh          |
| 2   | CSEEM  | laser    | 193.913  | 0.00453   | 8     | 40  | SoftRelu      |
| 2   | CSEEM  | laser    | 356.0    | 0.00496   | 16    | 44  | SoftRelu      |
| 2   | CSEEM  | laser    | 554.392  | 0.00413   | 32    | 44  | SoftRelu      |
| 2   | CSEEM  | laser    | 100.263  | 0.00518   | 8     | 53  | Relu          |
| 2   | CSEEM  | laser    | 20.078   | 0.00608   | 16    | 52  | Relu          |
| 2   | CSEEM  | laser    | 685.841  | 0.0061    | 32    | 43  | Relu          |
| 2   | CSEEM  | laser    | 91.139   | 0.00585   | 8     | 41  | Sigmoid       |
| 2   | CSEEM  | laser    | 663.0    | 0.00399   | 16    | 53  | Sigmoid       |
| 2   | CSEEM  | laser    | 991.121  | 0.00398   | 32    | 53  | Sigmoid       |

Table G.36: All CSEEM Results of regression problems (36/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | laser   | 639.35   | 0.00458   | 8     | 65  | Sin           |
| 2   | CSEEM  | laser   | 33.0     | 0.00577   | 16    | 55  | Sin           |
| 2   | CSEEM  | laser   | 645.163  | 0.00555   | 32    | 48  | Sin           |
| 3   | CSEEM  | laser   | 236.494  | 0.00884   | 8     | 37  | Tanh          |
| 3   | CSEEM  | laser   | 16.993   | 0.00674   | 16    | 45  | Tanh          |
| 3   | CSEEM  | laser   | 138.701  | 0.00503   | 32    | 67  | Tanh          |
| 3   | CSEEM  | laser   | 415.689  | 0.00407   | 8     | 56  | SoftRelu      |
| 3   | CSEEM  | laser   | 659.061  | 0.00373   | 16    | 56  | SoftRelu      |
| 3   | CSEEM  | laser   | 726.744  | 0.0037    | 32    | 48  | SoftRelu      |
| 3   | CSEEM  | laser   | 818.004  | 0.00672   | 8     | 48  | Relu          |
| 3   | CSEEM  | laser   | 376.001  | 0.00789   | 16    | 30  | Relu          |
| 3   | CSEEM  | laser   | 50.709   | 0.00625   | 32    | 46  | Relu          |
| 3   | CSEEM  | laser   | 154.306  | 0.00266   | 8     | 58  | Sigmoid       |
| 3   | CSEEM  | laser   | 760.0    | 0.00326   | 16    | 66  | Sigmoid       |
| 3   | CSEEM  | laser   | 597.59   | 0.00464   | 32    | 52  | Sigmoid       |
| 3   | CSEEM  | laser   | 181.4    | 0.00434   | 8     | 66  | Sin           |
| 3   | CSEEM  | laser   | 573.993  | 0.00497   | 16    | 62  | Sin           |
| 3   | CSEEM  | laser   | 755.241  | 0.00699   | 32    | 59  | Sin           |
| 4   | CSEEM  | laser   | 643.479  | 0.00622   | 8     | 63  | Tanh          |
| 4   | CSEEM  | laser   | 805.999  | 0.00705   | 16    | 59  | Tanh          |
| 4   | CSEEM  | laser   | 69.535   | 0.00568   | 32    | 67  | Tanh          |
| 4   | CSEEM  | laser   | 917.881  | 0.00415   | 8     | 39  | SoftRelu      |
| 4   | CSEEM  | laser   | 551.035  | 0.00553   | 16    | 32  | SoftRelu      |
| 4   | CSEEM  | laser   | 868.551  | 0.00376   | 32    | 52  | SoftRelu      |
| 4   | CSEEM  | laser   | 90.992   | 0.0069    | 8     | 46  | Relu          |
| 4   | CSEEM  | laser   | 911.992  | 0.00477   | 16    | 68  | Relu          |
| 4   | CSEEM  | laser   | 750.555  | 0.00644   | 32    | 53  | Relu          |
| 4   | CSEEM  | laser   | 380.993  | 0.00749   | 8     | 38  | Sigmoid       |
| 4   | CSEEM  | laser   | 709.001  | 0.00637   | 16    | 41  | Sigmoid       |
| 4   | CSEEM  | laser   | 197.047  | 0.00492   | 32    | 44  | Sigmoid       |
| 4   | CSEEM  | laser   | 365.99   | 0.00312   | 8     | 79  | Sin           |
| 4   | CSEEM  | laser   | 483.991  | 0.00427   | 16    | 70  | Sin           |

Table G.37: All CSEEM Results of regression problems (37/61).



| Run | Method | Dataset    | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|------------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | laser      | 886.988  | 0.00543   | 32    | 59  | Sin           |
| 5   | CSEEM  | laser      | 395.989  | 0.00486   | 8     | 55  | Tanh          |
| 5   | CSEEM  | laser      | 802.99   | 0.00949   | 16    | 41  | Tanh          |
| 5   | CSEEM  | laser      | 611.209  | 0.00509   | 32    | 64  | Tanh          |
| 5   | CSEEM  | laser      | 397.993  | 0.00529   | 8     | 24  | SoftRelu      |
| 5   | CSEEM  | laser      | 571.99   | 0.0045    | 16    | 34  | SoftRelu      |
| 5   | CSEEM  | laser      | 301.0    | 0.00346   | 32    | 49  | SoftRelu      |
| 5   | CSEEM  | laser      | 388.999  | 0.00548   | 8     | 57  | Relu          |
| 5   | CSEEM  | laser      | 291.0    | 0.00703   | 16    | 34  | Relu          |
| 5   | CSEEM  | laser      | 662.512  | 0.00478   | 32    | 58  | Relu          |
| 5   | CSEEM  | laser      | 654.999  | 0.00282   | 8     | 77  | Sigmoid       |
| 5   | CSEEM  | laser      | 178.999  | 0.00435   | 16    | 46  | Sigmoid       |
| 5   | CSEEM  | laser      | 613.99   | 0.00585   | 32    | 40  | Sigmoid       |
| 5   | CSEEM  | laser      | 388.993  | 0.00712   | 8     | 51  | Sin           |
| 5   | CSEEM  | laser      | 7.005    | 0.008     | 16    | 61  | Sin           |
| 5   | CSEEM  | laser      | 782.552  | 0.00468   | 32    | 58  | Sin           |
| 1   | CSEEM  | machineCPU | 77.523   | 0.048     | 8     | 45  | Tanh          |
| 1   | CSEEM  | machineCPU | 112.0    | 0.0622    | 16    | 35  | Tanh          |
| 1   | CSEEM  | machineCPU | 162.76   | 0.0713    | 32    | 41  | Tanh          |
| 1   | CSEEM  | machineCPU | 31.256   | 0.0318    | 8     | 26  | SoftRelu      |
| 1   | CSEEM  | machineCPU | 64.0     | 0.0311    | 16    | 29  | SoftRelu      |
| 1   | CSEEM  | machineCPU | 79.639   | 0.0318    | 32    | 25  | SoftRelu      |
| 1   | CSEEM  | machineCPU | 37.765   | 0.0356    | 8     | 25  | Relu          |
| 1   | CSEEM  | machineCPU | 65.99    | 0.0327    | 16    | 21  | Relu          |
| 1   | CSEEM  | machineCPU | 46.874   | 0.0307    | 32    | 25  | Relu          |
| 1   | CSEEM  | machineCPU | 42.766   | 0.0624    | 8     | 30  | Sigmoid       |
| 1   | CSEEM  | machineCPU | 86.999   | 0.039     | 16    | 36  | Sigmoid       |
| 1   | CSEEM  | machineCPU | 169.268  | 0.0392    | 32    | 37  | Sigmoid       |
| 1   | CSEEM  | machineCPU | 96.771   | 0.151     | 8     | 41  | Sin           |
| 1   | CSEEM  | machineCPU | 151.992  | 0.0717    | 16    | 56  | Sin           |
| 1   | CSEEM  | machineCPU | 454.443  | 0.061     | 32    | 56  | Sin           |
| 2   | CSEEM  | machineCPU | 20.136   | 0.103     | 8     | 28  | Tanh          |

Table G.38: All CSEEM Results of regression problems (38/61).

| Run | Method | Dataset    | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|------------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | machineCPU | 152.004  | 0.0645    | 16    | 46  | Tanh          |
| 2   | CSEEM  | machineCPU | 184.899  | 0.0673    | 32    | 34  | Tanh          |
| 2   | CSEEM  | machineCPU | 31.248   | 0.0319    | 8     | 28  | SoftRelu      |
| 2   | CSEEM  | machineCPU | 62.991   | 0.033     | 16    | 29  | SoftRelu      |
| 2   | CSEEM  | machineCPU | 138.026  | 0.0264    | 32    | 26  | SoftRelu      |
| 2   | CSEEM  | machineCPU | 15.633   | 0.0283    | 8     | 28  | Relu          |
| 2   | CSEEM  | machineCPU | 47.988   | 0.0432    | 16    | 19  | Relu          |
| 2   | CSEEM  | machineCPU | 151.139  | 0.0382    | 32    | 23  | Relu          |
| 2   | CSEEM  | machineCPU | 92.641   | 0.0647    | 8     | 32  | Sigmoid       |
| 2   | CSEEM  | machineCPU | 112.006  | 0.0462    | 16    | 35  | Sigmoid       |
| 2   | CSEEM  | machineCPU | 253.919  | 0.0323    | 32    | 34  | Sigmoid       |
| 2   | CSEEM  | machineCPU | 31.256   | 0.126     | 8     | 40  | Sin           |
| 2   | CSEEM  | machineCPU | 173.995  | 0.125     | 16    | 44  | Sin           |
| 2   | CSEEM  | machineCPU | 115.887  | 0.0485    | 32    | 58  | Sin           |
| 3   | CSEEM  | machineCPU | 18.64    | 0.0482    | 8     | 39  | Tanh          |
| 3   | CSEEM  | machineCPU | 89.999   | 0.0513    | 16    | 48  | Tanh          |
| 3   | CSEEM  | machineCPU | 247.412  | 0.0552    | 32    | 39  | Tanh          |
| 3   | CSEEM  | machineCPU | 62.501   | 0.0339    | 8     | 28  | SoftRelu      |
| 3   | CSEEM  | machineCPU | 97.51    | 0.0291    | 16    | 27  | SoftRelu      |
| 3   | CSEEM  | machineCPU | 222.671  | 0.0257    | 32    | 22  | SoftRelu      |
| 3   | CSEEM  | machineCPU | 20.641   | 0.0372    | 8     | 19  | Relu          |
| 3   | CSEEM  | machineCPU | 45.002   | 0.0402    | 16    | 21  | Relu          |
| 3   | CSEEM  | machineCPU | 131.516  | 0.0278    | 32    | 31  | Relu          |
| 3   | CSEEM  | machineCPU | 46.883   | 0.0323    | 8     | 47  | Sigmoid       |
| 3   | CSEEM  | machineCPU | 40.997   | 0.0297    | 16    | 39  | Sigmoid       |
| 3   | CSEEM  | machineCPU | 126.013  | 0.0448    | 32    | 37  | Sigmoid       |
| 3   | CSEEM  | machineCPU | 46.766   | 0.0788    | 8     | 55  | Sin           |
| 3   | CSEEM  | machineCPU | 158.999  | 0.112     | 16    | 41  | Sin           |
| 3   | CSEEM  | machineCPU | 263.032  | 0.0721    | 32    | 48  | Sin           |
| 4   | CSEEM  | machineCPU | 79.144   | 0.0525    | 8     | 53  | Tanh          |
| 4   | CSEEM  | machineCPU | 163.993  | 0.0699    | 16    | 37  | Tanh          |
| 4   | CSEEM  | machineCPU | 267.918  | 0.0655    | 32    | 44  | Tanh          |

Table G.39: All CSEEM Results of regression problems (39/61).

| Run | Method | Dataset    | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|------------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | machineCPU | 39.775   | 0.0246    | 8     | 31  | SoftRelu      |
| 4   | CSEEM  | machineCPU | 133.996  | 0.0284    | 16    | 24  | SoftRelu      |
| 4   | CSEEM  | machineCPU | 300.054  | 0.0292    | 32    | 23  | SoftRelu      |
| 4   | CSEEM  | machineCPU | 33.003   | 0.0459    | 8     | 24  | Relu          |
| 4   | CSEEM  | machineCPU | 123.996  | 0.0339    | 16    | 28  | Relu          |
| 4   | CSEEM  | machineCPU | 178.213  | 0.0411    | 32    | 13  | Relu          |
| 4   | CSEEM  | machineCPU | 13.998   | 0.0474    | 8     | 41  | Sigmoid       |
| 4   | CSEEM  | machineCPU | 77.004   | 0.0233    | 16    | 45  | Sigmoid       |
| 4   | CSEEM  | machineCPU | 117.991  | 0.0472    | 32    | 33  | Sigmoid       |
| 4   | CSEEM  | machineCPU | 32.996   | 0.0605    | 8     | 67  | Sin           |
| 4   | CSEEM  | machineCPU | 242.0    | 0.0475    | 16    | 59  | Sin           |
| 4   | CSEEM  | machineCPU | 231.998  | 0.081     | 32    | 46  | Sin           |
| 5   | CSEEM  | machineCPU | 124.999  | 0.0429    | 8     | 55  | Tanh          |
| 5   | CSEEM  | machineCPU | 85.992   | 0.0692    | 16    | 40  | Tanh          |
| 5   | CSEEM  | machineCPU | 159.539  | 0.0743    | 32    | 36  | Tanh          |
| 5   | CSEEM  | machineCPU | 80.999   | 0.0302    | 8     | 24  | SoftRelu      |
| 5   | CSEEM  | machineCPU | 63.992   | 0.0267    | 16    | 32  | SoftRelu      |
| 5   | CSEEM  | machineCPU | 233.985  | 0.0319    | 32    | 23  | SoftRelu      |
| 5   | CSEEM  | machineCPU | 37.664   | 0.0311    | 8     | 27  | Relu          |
| 5   | CSEEM  | machineCPU | 78.0     | 0.0297    | 16    | 26  | Relu          |
| 5   | CSEEM  | machineCPU | 329.998  | 0.0282    | 32    | 29  | Relu          |
| 5   | CSEEM  | machineCPU | 50.005   | 0.0588    | 8     | 34  | Sigmoid       |
| 5   | CSEEM  | machineCPU | 62.999   | 0.0451    | 16    | 33  | Sigmoid       |
| 5   | CSEEM  | machineCPU | 152.001  | 0.0269    | 32    | 32  | Sigmoid       |
| 5   | CSEEM  | machineCPU | 101.006  | 0.0986    | 8     | 60  | Sin           |
| 5   | CSEEM  | machineCPU | 48.993   | 0.0804    | 16    | 46  | Sin           |
| 5   | CSEEM  | machineCPU | 416.999  | 0.0681    | 32    | 43  | Sin           |
| 1   | CSEEM  | mortgage   | 654.988  | 0.0124    | 8     | 76  | Tanh          |
| 1   | CSEEM  | mortgage   | 41.0     | 0.00821   | 16    | 108 | Tanh          |
| 1   | CSEEM  | mortgage   | 621.556  | 0.0123    | 32    | 83  | Tanh          |
| 1   | CSEEM  | mortgage   | 385.439  | 0.0045    | 8     | 57  | SoftRelu      |
| 1   | CSEEM  | mortgage   | 565.002  | 0.00698   | 16    | 46  | SoftRelu      |

Table G.40: All CSEEM Results of regression problems (40/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | mortgage | 292.156  | 0.00544   | 32    | 64  | SoftRelu      |
| 1   | CSEEM  | mortgage | 200.537  | 0.00327   | 8     | 85  | Relu          |
| 1   | CSEEM  | mortgage | 564.993  | 0.00525   | 16    | 60  | Relu          |
| 1   | CSEEM  | mortgage | 644.662  | 0.00407   | 32    | 62  | Relu          |
| 1   | CSEEM  | mortgage | 247.403  | 0.0103    | 8     | 60  | Sigmoid       |
| 1   | CSEEM  | mortgage | 550.0    | 0.00864   | 16    | 60  | Sigmoid       |
| 1   | CSEEM  | mortgage | 83.807   | 0.0077    | 32    | 70  | Sigmoid       |
| 1   | CSEEM  | mortgage | 643.696  | 0.0682    | 8     | 297 | Sin           |
| 1   | CSEEM  | mortgage | 668.999  | 0.0837    | 16    | 255 | Sin           |
| 1   | CSEEM  | mortgage | 143.233  | 0.0731    | 32    | 278 | Sin           |
| 2   | CSEEM  | mortgage | 432.312  | 0.00811   | 8     | 113 | Tanh          |
| 2   | CSEEM  | mortgage | 988.001  | 0.0101    | 16    | 98  | Tanh          |
| 2   | CSEEM  | mortgage | 322.246  | 0.013     | 32    | 94  | Tanh          |
| 2   | CSEEM  | mortgage | 917.593  | 0.00574   | 8     | 52  | SoftRelu      |
| 2   | CSEEM  | mortgage | 765.006  | 0.00314   | 16    | 61  | SoftRelu      |
| 2   | CSEEM  | mortgage | 364.235  | 0.00243   | 32    | 68  | SoftRelu      |
| 2   | CSEEM  | mortgage | 648.088  | 0.00196   | 8     | 102 | Relu          |
| 2   | CSEEM  | mortgage | 965.002  | 0.00288   | 16    | 61  | Relu          |
| 2   | CSEEM  | mortgage | 706.437  | 0.00461   | 32    | 54  | Relu          |
| 2   | CSEEM  | mortgage | 927.018  | 0.011     | 8     | 66  | Sigmoid       |
| 2   | CSEEM  | mortgage | 723.008  | 0.0109    | 16    | 58  | Sigmoid       |
| 2   | CSEEM  | mortgage | 913.677  | 0.00762   | 32    | 55  | Sigmoid       |
| 2   | CSEEM  | mortgage | 764.353  | 0.077     | 8     | 287 | Sin           |
| 2   | CSEEM  | mortgage | 805.001  | 0.0797    | 16    | 211 | Sin           |
| 2   | CSEEM  | mortgage | 933.832  | 0.0933    | 32    | 223 | Sin           |
| 3   | CSEEM  | mortgage | 641.854  | 0.0111    | 8     | 92  | Tanh          |
| 3   | CSEEM  | mortgage | 392.538  | 0.0097    | 16    | 102 | Tanh          |
| 3   | CSEEM  | mortgage | 591.284  | 0.011     | 32    | 92  | Tanh          |
| 3   | CSEEM  | mortgage | 471.579  | 0.00294   | 8     | 66  | SoftRelu      |
| 3   | CSEEM  | mortgage | 377.025  | 0.00236   | 16    | 67  | SoftRelu      |
| 3   | CSEEM  | mortgage | 69.857   | 0.0036    | 32    | 57  | SoftRelu      |
| 3   | CSEEM  | mortgage | 2.653    | 0.00407   | 8     | 68  | Relu          |

Table G.41: All CSEEM Results of regression problems (41/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | mortgage | 21.996   | 0.00478   | 16    | 62  | Relu          |
| 3   | CSEEM  | mortgage | 520.972  | 0.00432   | 32    | 64  | Relu          |
| 3   | CSEEM  | mortgage | 363.307  | 0.00894   | 8     | 62  | Sigmoid       |
| 3   | CSEEM  | mortgage | 576.01   | 0.00704   | 16    | 102 | Sigmoid       |
| 3   | CSEEM  | mortgage | 305.099  | 0.007     | 32    | 86  | Sigmoid       |
| 3   | CSEEM  | mortgage | 397.552  | 0.0821    | 8     | 279 | Sin           |
| 3   | CSEEM  | mortgage | 865.993  | 0.0942    | 16    | 225 | Sin           |
| 3   | CSEEM  | mortgage | 108.137  | 0.101     | 32    | 208 | Sin           |
| 4   | CSEEM  | mortgage | 812.622  | 0.00891   | 8     | 101 | Tanh          |
| 4   | CSEEM  | mortgage | 301.882  | 0.0131    | 16    | 70  | Tanh          |
| 4   | CSEEM  | mortgage | 312.214  | 0.00813   | 32    | 104 | Tanh          |
| 4   | CSEEM  | mortgage | 300.275  | 0.0157    | 8     | 29  | SoftRelu      |
| 4   | CSEEM  | mortgage | 892.0    | 0.0042    | 16    | 69  | SoftRelu      |
| 4   | CSEEM  | mortgage | 267.693  | 0.00342   | 32    | 63  | SoftRelu      |
| 4   | CSEEM  | mortgage | 305.817  | 0.00812   | 8     | 49  | Relu          |
| 4   | CSEEM  | mortgage | 628.957  | 0.0039    | 16    | 69  | Relu          |
| 4   | CSEEM  | mortgage | 205.961  | 0.00282   | 32    | 65  | Relu          |
| 4   | CSEEM  | mortgage | 190.993  | 0.00843   | 8     | 76  | Sigmoid       |
| 4   | CSEEM  | mortgage | 746.011  | 0.00652   | 16    | 89  | Sigmoid       |
| 4   | CSEEM  | mortgage | 850.216  | 0.00978   | 32    | 57  | Sigmoid       |
| 4   | CSEEM  | mortgage | 677.006  | 0.0992    | 8     | 226 | Sin           |
| 4   | CSEEM  | mortgage | 73.0     | 0.1       | 16    | 206 | Sin           |
| 4   | CSEEM  | mortgage | 825.99   | 0.0885    | 32    | 209 | Sin           |
| 5   | CSEEM  | mortgage | 906.591  | 0.0102    | 8     | 101 | Tanh          |
| 5   | CSEEM  | mortgage | 522.0    | 0.0114    | 16    | 77  | Tanh          |
| 5   | CSEEM  | mortgage | 926.782  | 0.0117    | 32    | 89  | Tanh          |
| 5   | CSEEM  | mortgage | 194.008  | 0.00438   | 8     | 60  | SoftRelu      |
| 5   | CSEEM  | mortgage | 476.002  | 0.00537   | 16    | 55  | SoftRelu      |
| 5   | CSEEM  | mortgage | 39.101   | 0.00562   | 32    | 51  | SoftRelu      |
| 5   | CSEEM  | mortgage | 396.999  | 0.00441   | 8     | 62  | Relu          |
| 5   | CSEEM  | mortgage | 868.0    | 0.00355   | 16    | 71  | Relu          |
| 5   | CSEEM  | mortgage | 349.002  | 0.00363   | 32    | 64  | Relu          |

Table G.42: All CSEEM Results of regression problems (42/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | mortgage | 644.01   | 0.00762   | 8     | 66  | Sigmoid       |
| 5   | CSEEM  | mortgage | 265.235  | 0.00983   | 16    | 68  | Sigmoid       |
| 5   | CSEEM  | mortgage | 27.009   | 0.00636   | 32    | 73  | Sigmoid       |
| 5   | CSEEM  | mortgage | 12.027   | 0.105     | 8     | 209 | Sin           |
| 5   | CSEEM  | mortgage | 178.01   | 0.0896    | 16    | 226 | Sin           |
| 5   | CSEEM  | mortgage | 776.255  | 0.0601    | 32    | 275 | Sin           |
| 1   | CSEEM  | plastic  | 182.907  | 0.0578    | 8     | 51  | Tanh          |
| 1   | CSEEM  | plastic  | 459.992  | 0.0578    | 16    | 40  | Tanh          |
| 1   | CSEEM  | plastic  | 970.745  | 0.0578    | 32    | 43  | Tanh          |
| 1   | CSEEM  | plastic  | 536.806  | 0.0578    | 8     | 54  | SoftRelu      |
| 1   | CSEEM  | plastic  | 688.999  | 0.0578    | 16    | 51  | SoftRelu      |
| 1   | CSEEM  | plastic  | 155.273  | 0.0578    | 32    | 48  | SoftRelu      |
| 1   | CSEEM  | plastic  | 200.536  | 0.0579    | 8     | 29  | Relu          |
| 1   | CSEEM  | plastic  | 571.007  | 0.0578    | 16    | 52  | Relu          |
| 1   | CSEEM  | plastic  | 857.008  | 0.0577    | 32    | 82  | Relu          |
| 1   | CSEEM  | plastic  | 354.175  | 0.0578    | 8     | 39  | Sigmoid       |
| 1   | CSEEM  | plastic  | 799.0    | 0.0578    | 16    | 44  | Sigmoid       |
| 1   | CSEEM  | plastic  | 668.408  | 0.0578    | 32    | 44  | Sigmoid       |
| 1   | CSEEM  | plastic  | 862.185  | 0.0578    | 8     | 52  | Sin           |
| 1   | CSEEM  | plastic  | 301.999  | 0.0578    | 16    | 40  | Sin           |
| 1   | CSEEM  | plastic  | 364.575  | 0.0578    | 32    | 45  | Sin           |
| 2   | CSEEM  | plastic  | 900.403  | 0.0578    | 8     | 37  | Tanh          |
| 2   | CSEEM  | plastic  | 379.99   | 0.0578    | 16    | 61  | Tanh          |
| 2   | CSEEM  | plastic  | 918.026  | 0.0577    | 32    | 65  | Tanh          |
| 2   | CSEEM  | plastic  | 407.088  | 0.0578    | 8     | 58  | SoftRelu      |
| 2   | CSEEM  | plastic  | 721.135  | 0.0578    | 16    | 39  | SoftRelu      |
| 2   | CSEEM  | plastic  | 640.224  | 0.0577    | 32    | 60  | SoftRelu      |
| 2   | CSEEM  | plastic  | 585.477  | 0.0578    | 8     | 59  | Relu          |
| 2   | CSEEM  | plastic  | 810.0    | 0.0579    | 16    | 35  | Relu          |
| 2   | CSEEM  | plastic  | 78.251   | 0.0579    | 32    | 21  | Relu          |
| 2   | CSEEM  | plastic  | 275.666  | 0.0578    | 8     | 38  | Sigmoid       |
| 2   | CSEEM  | plastic  | 859.989  | 0.0578    | 16    | 47  | Sigmoid       |

Table G.43: All CSEEM Results of regression problems (43/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | plastic | 288.359  | 0.0578    | 32    | 42  | Sigmoid       |
| 2   | CSEEM  | plastic | 139.518  | 0.0578    | 8     | 45  | Sin           |
| 2   | CSEEM  | plastic | 830.991  | 0.0578    | 16    | 52  | Sin           |
| 2   | CSEEM  | plastic | 711.637  | 0.0578    | 32    | 30  | Sin           |
| 3   | CSEEM  | plastic | 415.702  | 0.0578    | 8     | 49  | Tanh          |
| 3   | CSEEM  | plastic | 61.063   | 0.0578    | 16    | 61  | Tanh          |
| 3   | CSEEM  | plastic | 461.834  | 0.0578    | 32    | 54  | Tanh          |
| 3   | CSEEM  | plastic | 496.836  | 0.0578    | 8     | 61  | SoftRelu      |
| 3   | CSEEM  | plastic | 197.059  | 0.0578    | 16    | 53  | SoftRelu      |
| 3   | CSEEM  | plastic | 396.634  | 0.0578    | 32    | 36  | SoftRelu      |
| 3   | CSEEM  | plastic | 344.7    | 0.0576    | 8     | 63  | Relu          |
| 3   | CSEEM  | plastic | 760.999  | 0.0577    | 16    | 82  | Relu          |
| 3   | CSEEM  | plastic | 12.362   | 0.0578    | 32    | 45  | Relu          |
| 3   | CSEEM  | plastic | 153.661  | 0.0578    | 8     | 46  | Sigmoid       |
| 3   | CSEEM  | plastic | 22.999   | 0.0578    | 16    | 42  | Sigmoid       |
| 3   | CSEEM  | plastic | 45.244   | 0.0578    | 32    | 45  | Sigmoid       |
| 3   | CSEEM  | plastic | 451.458  | 0.0578    | 8     | 52  | Sin           |
| 3   | CSEEM  | plastic | 298.018  | 0.0578    | 16    | 50  | Sin           |
| 3   | CSEEM  | plastic | 373.304  | 0.0578    | 32    | 52  | Sin           |
| 4   | CSEEM  | plastic | 974.423  | 0.0578    | 8     | 55  | Tanh          |
| 4   | CSEEM  | plastic | 152.101  | 0.0578    | 16    | 51  | Tanh          |
| 4   | CSEEM  | plastic | 514.481  | 0.0578    | 32    | 48  | Tanh          |
| 4   | CSEEM  | plastic | 375.205  | 0.0578    | 8     | 61  | SoftRelu      |
| 4   | CSEEM  | plastic | 366.379  | 0.0578    | 16    | 61  | SoftRelu      |
| 4   | CSEEM  | plastic | 581.224  | 0.0577    | 32    | 57  | SoftRelu      |
| 4   | CSEEM  | plastic | 125.992  | 0.0578    | 8     | 62  | Relu          |
| 4   | CSEEM  | plastic | 790.075  | 0.0576    | 16    | 74  | Relu          |
| 4   | CSEEM  | plastic | 536.108  | 0.0578    | 32    | 60  | Relu          |
| 4   | CSEEM  | plastic | 222.002  | 0.0578    | 8     | 40  | Sigmoid       |
| 4   | CSEEM  | plastic | 719.007  | 0.0578    | 16    | 47  | Sigmoid       |
| 4   | CSEEM  | plastic | 487.025  | 0.0578    | 32    | 44  | Sigmoid       |
| 4   | CSEEM  | plastic | 953.984  | 0.0578    | 8     | 57  | Sin           |

Table G.44: All CSEEM Results of regression problems (44/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$  | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|------|---------------|
| 4   | CSEEM  | plastic | 263.999  | 0.0578    | 16    | 43   | Sin           |
| 4   | CSEEM  | plastic | 673.991  | 0.0578    | 32    | 55   | Sin           |
| 5   | CSEEM  | plastic | 996.174  | 0.0578    | 8     | 48   | Tanh          |
| 5   | CSEEM  | plastic | 713.002  | 0.0578    | 16    | 35   | Tanh          |
| 5   | CSEEM  | plastic | 198.122  | 0.0578    | 32    | 58   | Tanh          |
| 5   | CSEEM  | plastic | 607.985  | 0.0578    | 8     | 77   | SoftRelu      |
| 5   | CSEEM  | plastic | 269.405  | 0.0578    | 16    | 52   | SoftRelu      |
| 5   | CSEEM  | plastic | 125.043  | 0.0578    | 32    | 40   | SoftRelu      |
| 5   | CSEEM  | plastic | 54.0     | 0.0581    | 8     | 23   | Relu          |
| 5   | CSEEM  | plastic | 41.005   | 0.0579    | 16    | 63   | Relu          |
| 5   | CSEEM  | plastic | 709.001  | 0.0578    | 32    | 70   | Relu          |
| 5   | CSEEM  | plastic | 894.0    | 0.0578    | 8     | 42   | Sigmoid       |
| 5   | CSEEM  | plastic | 766.033  | 0.0577    | 16    | 62   | Sigmoid       |
| 5   | CSEEM  | plastic | 552.004  | 0.0578    | 32    | 41   | Sigmoid       |
| 5   | CSEEM  | plastic | 468.992  | 0.0578    | 8     | 60   | Sin           |
| 5   | CSEEM  | plastic | 80.0     | 0.0578    | 16    | 47   | Sin           |
| 5   | CSEEM  | plastic | 156.991  | 0.0578    | 32    | 44   | Sin           |
| 1   | CSEEM  | puma32h | 661.805  | 0.0702    | 8     | 1023 | Tanh          |
| 1   | CSEEM  | puma32h | 720.688  | 0.0692    | 16    | 1089 | Tanh          |
| 1   | CSEEM  | puma32h | 518.541  | 0.066     | 32    | 1293 | Tanh          |
| 1   | CSEEM  | puma32h | 15.73    | 0.0729    | 8     | 1029 | SoftRelu      |
| 1   | CSEEM  | puma32h | 517.031  | 0.0686    | 16    | 1308 | SoftRelu      |
| 1   | CSEEM  | puma32h | 919.079  | 0.0697    | 32    | 1292 | SoftRelu      |
| 1   | CSEEM  | puma32h | 717.498  | 0.0809    | 8     | 337  | Relu          |
| 1   | CSEEM  | puma32h | 801.747  | 0.0697    | 16    | 1310 | Relu          |
| 1   | CSEEM  | puma32h | 757.061  | 0.0715    | 32    | 1104 | Relu          |
| 1   | CSEEM  | puma32h | 97.654   | 0.0696    | 8     | 1069 | Sigmoid       |
| 1   | CSEEM  | puma32h | 975.998  | 0.0681    | 16    | 1122 | Sigmoid       |
| 1   | CSEEM  | puma32h | 116.791  | 0.0678    | 32    | 1053 | Sigmoid       |
| 1   | CSEEM  | puma32h | 60.493   | 0.0893    | 8     | 1333 | Sin           |
| 1   | CSEEM  | puma32h | 390.223  | 0.0916    | 16    | 1248 | Sin           |
| 1   | CSEEM  | puma32h | 947.469  | 0.0886    | 32    | 1405 | Sin           |

Table G.45: All CSEEM Results of regression problems (45/61).



| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$  | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|------|---------------|
| 2   | CSEEM  | puma32h | 346.53   | 0.066     | 8     | 1405 | Tanh          |
| 2   | CSEEM  | puma32h | 893.523  | 0.0687    | 16    | 1173 | Tanh          |
| 2   | CSEEM  | puma32h | 430.681  | 0.0674    | 32    | 1189 | Tanh          |
| 2   | CSEEM  | puma32h | 759.453  | 0.0739    | 8     | 925  | SoftRelu      |
| 2   | CSEEM  | puma32h | 830.952  | 0.073     | 16    | 1006 | SoftRelu      |
| 2   | CSEEM  | puma32h | 518.035  | 0.072     | 32    | 1076 | SoftRelu      |
| 2   | CSEEM  | puma32h | 216.37   | 0.0765    | 8     | 683  | Relu          |
| 2   | CSEEM  | puma32h | 977.581  | 0.0719    | 16    | 1071 | Relu          |
| 2   | CSEEM  | puma32h | 419.739  | 0.0714    | 32    | 1119 | Relu          |
| 2   | CSEEM  | puma32h | 110.978  | 0.0682    | 8     | 1041 | Sigmoid       |
| 2   | CSEEM  | puma32h | 949.111  | 0.0661    | 16    | 1257 | Sigmoid       |
| 2   | CSEEM  | puma32h | 958.888  | 0.065     | 32    | 1246 | Sigmoid       |
| 2   | CSEEM  | puma32h | 23.204   | 0.0858    | 8     | 1658 | Sin           |
| 2   | CSEEM  | puma32h | 455.49   | 0.0882    | 16    | 1459 | Sin           |
| 2   | CSEEM  | puma32h | 299.867  | 0.0888    | 32    | 1384 | Sin           |
| 3   | CSEEM  | puma32h | 869.571  | 0.0664    | 8     | 1365 | Tanh          |
| 3   | CSEEM  | puma32h | 402.931  | 0.0701    | 16    | 984  | Tanh          |
| 3   | CSEEM  | puma32h | 849.141  | 0.0669    | 32    | 1133 | Tanh          |
| 3   | CSEEM  | puma32h | 122.489  | 0.0705    | 8     | 1220 | SoftRelu      |
| 3   | CSEEM  | puma32h | 241.264  | 0.0724    | 16    | 1049 | SoftRelu      |
| 3   | CSEEM  | puma32h | 984.445  | 0.0708    | 32    | 1190 | SoftRelu      |
| 3   | CSEEM  | puma32h | 124.493  | 0.0715    | 8     | 1140 | Relu          |
| 3   | CSEEM  | puma32h | 129.52   | 0.0738    | 16    | 1011 | Relu          |
| 3   | CSEEM  | puma32h | 862.748  | 0.0697    | 32    | 1295 | Relu          |
| 3   | CSEEM  | puma32h | 926.653  | 0.0662    | 8     | 1213 | Sigmoid       |
| 3   | CSEEM  | puma32h | 918.815  | 0.0672    | 16    | 1328 | Sigmoid       |
| 3   | CSEEM  | puma32h | 532.924  | 0.0665    | 32    | 1200 | Sigmoid       |
| 3   | CSEEM  | puma32h | 814.207  | 0.0872    | 8     | 1523 | Sin           |
| 3   | CSEEM  | puma32h | 54.239   | 0.0928    | 16    | 1070 | Sin           |
| 3   | CSEEM  | puma32h | 838.532  | 0.0915    | 32    | 1196 | Sin           |
| 4   | CSEEM  | puma32h | 283.134  | 0.0685    | 8     | 1162 | Tanh          |
| 4   | CSEEM  | puma32h | 681.648  | 0.069     | 16    | 1062 | Tanh          |

Table G.46: All CSEEM Results of regression problems (46/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$  | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|------|---------------|
| 4   | CSEEM  | puma32h | 945.247  | 0.0663    | 32    | 1279 | Tanh          |
| 4   | CSEEM  | puma32h | 446.323  | 0.0713    | 8     | 1179 | SoftRelu      |
| 4   | CSEEM  | puma32h | 242.692  | 0.0716    | 16    | 1135 | SoftRelu      |
| 4   | CSEEM  | puma32h | 841.917  | 0.0713    | 32    | 1152 | SoftRelu      |
| 4   | CSEEM  | puma32h | 862.162  | 0.0685    | 8     | 1394 | Relu          |
| 4   | CSEEM  | puma32h | 665.082  | 0.0722    | 16    | 1019 | Relu          |
| 4   | CSEEM  | puma32h | 737.64   | 0.0696    | 32    | 1335 | Relu          |
| 4   | CSEEM  | puma32h | 515.162  | 0.0714    | 8     | 831  | Sigmoid       |
| 4   | CSEEM  | puma32h | 836.755  | 0.0652    | 16    | 1395 | Sigmoid       |
| 4   | CSEEM  | puma32h | 538.68   | 0.0684    | 32    | 1043 | Sigmoid       |
| 4   | CSEEM  | puma32h | 534.626  | 0.0983    | 8     | 765  | Sin           |
| 4   | CSEEM  | puma32h | 572.677  | 0.0897    | 16    | 1347 | Sin           |
| 4   | CSEEM  | puma32h | 753.831  | 0.0927    | 32    | 1190 | Sin           |
| 5   | CSEEM  | puma32h | 61.507   | 0.0705    | 8     | 1000 | Tanh          |
| 5   | CSEEM  | puma32h | 67.472   | 0.0689    | 16    | 1110 | Tanh          |
| 5   | CSEEM  | puma32h | 959.337  | 0.0688    | 32    | 1061 | Tanh          |
| 5   | CSEEM  | puma32h | 298.041  | 0.076     | 8     | 781  | SoftRelu      |
| 5   | CSEEM  | puma32h | 548.1    | 0.0716    | 16    | 1109 | SoftRelu      |
| 5   | CSEEM  | puma32h | 54.14    | 0.0697    | 32    | 1218 | SoftRelu      |
| 5   | CSEEM  | puma32h | 210.812  | 0.0725    | 8     | 1093 | Relu          |
| 5   | CSEEM  | puma32h | 803.287  | 0.0743    | 16    | 865  | Relu          |
| 5   | CSEEM  | puma32h | 834.127  | 0.0717    | 32    | 1102 | Relu          |
| 5   | CSEEM  | puma32h | 640.315  | 0.0703    | 8     | 972  | Sigmoid       |
| 5   | CSEEM  | puma32h | 336.826  | 0.0654    | 16    | 1285 | Sigmoid       |
| 5   | CSEEM  | puma32h | 963.046  | 0.067     | 32    | 1135 | Sigmoid       |
| 5   | CSEEM  | puma32h | 797.683  | 0.0904    | 8     | 1293 | Sin           |
| 5   | CSEEM  | puma32h | 972.109  | 0.0904    | 16    | 1256 | Sin           |
| 5   | CSEEM  | puma32h | 517.414  | 0.0889    | 32    | 1366 | Sin           |
| 1   | CSEEM  | quake   | 93.043   | 0.315     | 8     | 812  | Tanh          |
| 1   | CSEEM  | quake   | 27.176   | 0.316     | 16    | 791  | Tanh          |
| 1   | CSEEM  | quake   | 569.674  | 0.314     | 32    | 814  | Tanh          |
| 1   | CSEEM  | quake   | 269.546  | 0.458     | 8     | 258  | SoftRelu      |

Table G.47: All CSEEM Results of regression problems (47/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | quake   | 718.195  | 0.348     | 16    | 698 | SoftRelu      |
| 1   | CSEEM  | quake   | 284.25   | 0.342     | 32    | 709 | SoftRelu      |
| 1   | CSEEM  | quake   | 137.971  | 0.42      | 8     | 409 | Relu          |
| 1   | CSEEM  | quake   | 213.142  | 0.342     | 16    | 748 | Relu          |
| 1   | CSEEM  | quake   | 459.34   | 0.365     | 32    | 640 | Relu          |
| 1   | CSEEM  | quake   | 610.618  | 0.409     | 8     | 473 | Sigmoid       |
| 1   | CSEEM  | quake   | 932.003  | 0.339     | 16    | 729 | Sigmoid       |
| 1   | CSEEM  | quake   | 943.273  | 0.352     | 32    | 670 | Sigmoid       |
| 1   | CSEEM  | quake   | 755.519  | 0.381     | 8     | 659 | Sin           |
| 1   | CSEEM  | quake   | 47.992   | 0.385     | 16    | 641 | Sin           |
| 1   | CSEEM  | quake   | 974.221  | 0.386     | 32    | 600 | Sin           |
| 2   | CSEEM  | quake   | 374.719  | 0.447     | 8     | 314 | Tanh          |
| 2   | CSEEM  | quake   | 846.976  | 0.344     | 16    | 710 | Tanh          |
| 2   | CSEEM  | quake   | 435.825  | 0.32      | 32    | 789 | Tanh          |
| 2   | CSEEM  | quake   | 418.711  | 0.422     | 8     | 425 | SoftRelu      |
| 2   | CSEEM  | quake   | 642.116  | 0.352     | 16    | 677 | SoftRelu      |
| 2   | CSEEM  | quake   | 412.276  | 0.338     | 32    | 729 | SoftRelu      |
| 2   | CSEEM  | quake   | 923.002  | 0.346     | 8     | 767 | Relu          |
| 2   | CSEEM  | quake   | 102.992  | 0.397     | 16    | 496 | Relu          |
| 2   | CSEEM  | quake   | 503.368  | 0.351     | 32    | 722 | Relu          |
| 2   | CSEEM  | quake   | 297.957  | 0.308     | 8     | 885 | Sigmoid       |
| 2   | CSEEM  | quake   | 116.084  | 0.403     | 16    | 497 | Sigmoid       |
| 2   | CSEEM  | quake   | 622.993  | 0.339     | 32    | 733 | Sigmoid       |
| 2   | CSEEM  | quake   | 291.244  | 0.379     | 8     | 657 | Sin           |
| 2   | CSEEM  | quake   | 670.999  | 0.382     | 16    | 645 | Sin           |
| 2   | CSEEM  | quake   | 689.821  | 0.387     | 32    | 580 | Sin           |
| 3   | CSEEM  | quake   | 174.613  | 0.297     | 8     | 891 | Tanh          |
| 3   | CSEEM  | quake   | 856.123  | 0.329     | 16    | 775 | Tanh          |
| 3   | CSEEM  | quake   | 859.276  | 0.343     | 32    | 727 | Tanh          |
| 3   | CSEEM  | quake   | 158.475  | 0.323     | 8     | 797 | SoftRelu      |
| 3   | CSEEM  | quake   | 103.0    | 0.337     | 16    | 735 | SoftRelu      |
| 3   | CSEEM  | quake   | 893.751  | 0.342     | 32    | 713 | SoftRelu      |

Table G.48: All CSEEM Results of regression problems (48/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | quake   | 433.586  | 0.298     | 8     | 924 | Relu          |
| 3   | CSEEM  | quake   | 682.001  | 0.341     | 16    | 713 | Relu          |
| 3   | CSEEM  | quake   | 983.574  | 0.331     | 32    | 769 | Relu          |
| 3   | CSEEM  | quake   | 426.339  | 0.373     | 8     | 614 | Sigmoid       |
| 3   | CSEEM  | quake   | 450.921  | 0.393     | 16    | 538 | Sigmoid       |
| 3   | CSEEM  | quake   | 972.947  | 0.348     | 32    | 691 | Sigmoid       |
| 3   | CSEEM  | quake   | 574.558  | 0.393     | 8     | 561 | Sin           |
| 3   | CSEEM  | quake   | 317.993  | 0.398     | 16    | 539 | Sin           |
| 3   | CSEEM  | quake   | 536.336  | 0.384     | 32    | 619 | Sin           |
| 4   | CSEEM  | quake   | 760.149  | 0.414     | 8     | 439 | Tanh          |
| 4   | CSEEM  | quake   | 333.99   | 0.443     | 16    | 316 | Tanh          |
| 4   | CSEEM  | quake   | 837.51   | 0.334     | 32    | 738 | Tanh          |
| 4   | CSEEM  | quake   | 644.534  | 0.364     | 8     | 650 | SoftRelu      |
| 4   | CSEEM  | quake   | 886.153  | 0.351     | 16    | 678 | SoftRelu      |
| 4   | CSEEM  | quake   | 189.055  | 0.34      | 32    | 731 | SoftRelu      |
| 4   | CSEEM  | quake   | 112.954  | 0.348     | 8     | 679 | Relu          |
| 4   | CSEEM  | quake   | 981.995  | 0.324     | 16    | 787 | Relu          |
| 4   | CSEEM  | quake   | 860.747  | 0.34      | 32    | 737 | Relu          |
| 4   | CSEEM  | quake   | 641.0    | 0.411     | 8     | 456 | Sigmoid       |
| 4   | CSEEM  | quake   | 115.006  | 0.355     | 16    | 673 | Sigmoid       |
| 4   | CSEEM  | quake   | 987.948  | 0.342     | 32    | 713 | Sigmoid       |
| 4   | CSEEM  | quake   | 662.189  | 0.391     | 8     | 582 | Sin           |
| 4   | CSEEM  | quake   | 123.003  | 0.389     | 16    | 614 | Sin           |
| 4   | CSEEM  | quake   | 794.946  | 0.388     | 32    | 588 | Sin           |
| 5   | CSEEM  | quake   | 140.489  | 0.326     | 8     | 789 | Tanh          |
| 5   | CSEEM  | quake   | 539.999  | 0.329     | 16    | 769 | Tanh          |
| 5   | CSEEM  | quake   | 136.918  | 0.313     | 32    | 838 | Tanh          |
| 5   | CSEEM  | quake   | 480.011  | 0.393     | 8     | 543 | SoftRelu      |
| 5   | CSEEM  | quake   | 404.0    | 0.316     | 16    | 810 | SoftRelu      |
| 5   | CSEEM  | quake   | 391.616  | 0.342     | 32    | 715 | SoftRelu      |
| 5   | CSEEM  | quake   | 689.999  | 0.31      | 8     | 864 | Relu          |
| 5   | CSEEM  | quake   | 959.065  | 0.369     | 16    | 596 | Relu          |

Table G.49: All CSEEM Results of regression problems (49/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | quake   | 628.277  | 0.361     | 32    | 665 | Relu          |
| 5   | CSEEM  | quake   | 92.001   | 0.392     | 8     | 537 | Sigmoid       |
| 5   | CSEEM  | quake   | 903.733  | 0.338     | 16    | 754 | Sigmoid       |
| 5   | CSEEM  | quake   | 396.524  | 0.344     | 32    | 722 | Sigmoid       |
| 5   | CSEEM  | quake   | 611.142  | 0.379     | 8     | 653 | Sin           |
| 5   | CSEEM  | quake   | 970.006  | 0.381     | 16    | 653 | Sin           |
| 5   | CSEEM  | quake   | 389.328  | 0.387     | 32    | 611 | Sin           |
| 1   | CSEEM  | stock   | 393.431  | 0.0134    | 8     | 49  | Tanh          |
| 1   | CSEEM  | stock   | 735.992  | 0.00843   | 16    | 80  | Tanh          |
| 1   | CSEEM  | stock   | 89.699   | 0.0076    | 32    | 71  | Tanh          |
| 1   | CSEEM  | stock   | 544.21   | 0.00629   | 8     | 53  | SoftRelu      |
| 1   | CSEEM  | stock   | 762.251  | 0.00582   | 16    | 49  | SoftRelu      |
| 1   | CSEEM  | stock   | 30.018   | 0.00571   | 32    | 56  | SoftRelu      |
| 1   | CSEEM  | stock   | 234.792  | 0.00637   | 8     | 71  | Relu          |
| 1   | CSEEM  | stock   | 399.963  | 0.00722   | 16    | 51  | Relu          |
| 1   | CSEEM  | stock   | 488.063  | 0.00653   | 32    | 56  | Relu          |
| 1   | CSEEM  | stock   | 365.298  | 0.00803   | 8     | 57  | Sigmoid       |
| 1   | CSEEM  | stock   | 906.994  | 0.00795   | 16    | 66  | Sigmoid       |
| 1   | CSEEM  | stock   | 722.494  | 0.00862   | 32    | 51  | Sigmoid       |
| 1   | CSEEM  | stock   | 790.512  | 0.0131    | 8     | 109 | Sin           |
| 1   | CSEEM  | stock   | 916.987  | 0.0244    | 16    | 80  | Sin           |
| 1   | CSEEM  | stock   | 933.199  | 0.0227    | 32    | 97  | Sin           |
| 2   | CSEEM  | stock   | 349.687  | 0.00825   | 8     | 59  | Tanh          |
| 2   | CSEEM  | stock   | 604.243  | 0.00897   | 16    | 52  | Tanh          |
| 2   | CSEEM  | stock   | 800.62   | 0.0103    | 32    | 59  | Tanh          |
| 2   | CSEEM  | stock   | 276.167  | 0.00648   | 8     | 60  | SoftRelu      |
| 2   | CSEEM  | stock   | 808.719  | 0.00574   | 16    | 59  | SoftRelu      |
| 2   | CSEEM  | stock   | 930.507  | 0.007     | 32    | 48  | SoftRelu      |
| 2   | CSEEM  | stock   | 624.227  | 0.00799   | 8     | 44  | Relu          |
| 2   | CSEEM  | stock   | 888.009  | 0.00551   | 16    | 67  | Relu          |
| 2   | CSEEM  | stock   | 184.929  | 0.0052    | 32    | 62  | Relu          |
| 2   | CSEEM  | stock   | 507.234  | 0.0087    | 8     | 63  | Sigmoid       |

Table G.50: All CSEEM Results of regression problems (50/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | stock   | 161.998  | 0.0076    | 16    | 63  | Sigmoid       |
| 2   | CSEEM  | stock   | 110.921  | 0.0076    | 32    | 71  | Sigmoid       |
| 2   | CSEEM  | stock   | 833.368  | 0.0206    | 8     | 103 | Sin           |
| 2   | CSEEM  | stock   | 780.0    | 0.0138    | 16    | 120 | Sin           |
| 2   | CSEEM  | stock   | 173.003  | 0.0261    | 32    | 94  | Sin           |
| 3   | CSEEM  | stock   | 427.702  | 0.0106    | 8     | 88  | Tanh          |
| 3   | CSEEM  | stock   | 50.991   | 0.00864   | 16    | 79  | Tanh          |
| 3   | CSEEM  | stock   | 462.699  | 0.00907   | 32    | 69  | Tanh          |
| 3   | CSEEM  | stock   | 205.026  | 0.00895   | 8     | 50  | SoftRelu      |
| 3   | CSEEM  | stock   | 407.146  | 0.00492   | 16    | 63  | SoftRelu      |
| 3   | CSEEM  | stock   | 697.396  | 0.00481   | 32    | 69  | SoftRelu      |
| 3   | CSEEM  | stock   | 263.545  | 0.0054    | 8     | 79  | Relu          |
| 3   | CSEEM  | stock   | 941.0    | 0.00737   | 16    | 53  | Relu          |
| 3   | CSEEM  | stock   | 253.575  | 0.00614   | 32    | 67  | Relu          |
| 3   | CSEEM  | stock   | 216.678  | 0.0127    | 8     | 37  | Sigmoid       |
| 3   | CSEEM  | stock   | 412.0    | 0.00814   | 16    | 62  | Sigmoid       |
| 3   | CSEEM  | stock   | 68.439   | 0.00844   | 32    | 57  | Sigmoid       |
| 3   | CSEEM  | stock   | 235.461  | 0.015     | 8     | 116 | Sin           |
| 3   | CSEEM  | stock   | 24.96    | 0.0157    | 16    | 117 | Sin           |
| 3   | CSEEM  | stock   | 659.365  | 0.0184    | 32    | 102 | Sin           |
| 4   | CSEEM  | stock   | 282.846  | 0.01      | 8     | 46  | Tanh          |
| 4   | CSEEM  | stock   | 749.993  | 0.00905   | 16    | 81  | Tanh          |
| 4   | CSEEM  | stock   | 175.598  | 0.00747   | 32    | 73  | Tanh          |
| 4   | CSEEM  | stock   | 285.856  | 0.00655   | 8     | 54  | SoftRelu      |
| 4   | CSEEM  | stock   | 789.001  | 0.0063    | 16    | 53  | SoftRelu      |
| 4   | CSEEM  | stock   | 353.987  | 0.00599   | 32    | 57  | SoftRelu      |
| 4   | CSEEM  | stock   | 253.927  | 0.00706   | 8     | 55  | Relu          |
| 4   | CSEEM  | stock   | 529.999  | 0.00617   | 16    | 60  | Relu          |
| 4   | CSEEM  | stock   | 59.569   | 0.0069    | 32    | 60  | Relu          |
| 4   | CSEEM  | stock   | 550.999  | 0.00857   | 8     | 52  | Sigmoid       |
| 4   | CSEEM  | stock   | 215.995  | 0.00604   | 16    | 71  | Sigmoid       |
| 4   | CSEEM  | stock   | 561.991  | 0.00646   | 32    | 66  | Sigmoid       |

Table G.51: All CSEEM Results of regression problems (51/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$  | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|------|---------------|
| 4   | CSEEM  | stock   | 740.999  | 0.0162    | 8     | 117  | Sin           |
| 4   | CSEEM  | stock   | 95.525   | 0.0225    | 16    | 122  | Sin           |
| 4   | CSEEM  | stock   | 983.999  | 0.0265    | 32    | 72   | Sin           |
| 5   | CSEEM  | stock   | 641.001  | 0.00978   | 8     | 66   | Tanh          |
| 5   | CSEEM  | stock   | 988.993  | 0.00804   | 16    | 73   | Tanh          |
| 5   | CSEEM  | stock   | 2.0      | 0.00883   | 32    | 69   | Tanh          |
| 5   | CSEEM  | stock   | 701.493  | 0.0081    | 8     | 45   | SoftRelu      |
| 5   | CSEEM  | stock   | 887.999  | 0.00587   | 16    | 51   | SoftRelu      |
| 5   | CSEEM  | stock   | 299.876  | 0.0056    | 32    | 58   | SoftRelu      |
| 5   | CSEEM  | stock   | 469.998  | 0.00533   | 8     | 74   | Relu          |
| 5   | CSEEM  | stock   | 391.993  | 0.00755   | 16    | 49   | Relu          |
| 5   | CSEEM  | stock   | 247.996  | 0.00675   | 32    | 51   | Relu          |
| 5   | CSEEM  | stock   | 475.0    | 0.0065    | 8     | 80   | Sigmoid       |
| 5   | CSEEM  | stock   | 269.993  | 0.00629   | 16    | 57   | Sigmoid       |
| 5   | CSEEM  | stock   | 180.061  | 0.00895   | 32    | 58   | Sigmoid       |
| 5   | CSEEM  | stock   | 550.0    | 0.0297    | 8     | 102  | Sin           |
| 5   | CSEEM  | stock   | 316.989  | 0.0235    | 16    | 114  | Sin           |
| 5   | CSEEM  | stock   | 364.99   | 0.0209    | 32    | 110  | Sin           |
| 1   | CSEEM  | tic     | 778.013  | 0.547     | 8     | 3637 | Tanh          |
| 1   | CSEEM  | tic     | 535.471  | 0.397     | 16    | 5121 | Tanh          |
| 1   | CSEEM  | tic     | 576.248  | 0.385     | 32    | 5332 | Tanh          |
| 1   | CSEEM  | tic     | 917.98   | 0.447     | 8     | 4516 | SoftRelu      |
| 1   | CSEEM  | tic     | 290.455  | 0.392     | 16    | 5205 | SoftRelu      |
| 1   | CSEEM  | tic     | 235.13   | 0.384     | 32    | 5150 | SoftRelu      |
| 1   | CSEEM  | tic     | 909.831  | 0.366     | 8     | 5390 | Relu          |
| 1   | CSEEM  | tic     | 120.634  | 0.376     | 16    | 5252 | Relu          |
| 1   | CSEEM  | tic     | 36.241   | 0.349     | 32    | 5574 | Relu          |
| 1   | CSEEM  | tic     | 530.149  | 0.74      | 8     | 1587 | Sigmoid       |
| 1   | CSEEM  | tic     | 432.506  | 0.428     | 16    | 4945 | Sigmoid       |
| 1   | CSEEM  | tic     | 652.04   | 0.376     | 32    | 5305 | Sigmoid       |
| 1   | CSEEM  | tic     | 867.764  | 0.345     | 8     | 5888 | Sin           |
| 1   | CSEEM  | tic     | 122.701  | 0.467     | 16    | 4745 | Sin           |

Table G.52: All CSEEM Results of regression problems (52/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$  | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|------|---------------|
| 1   | CSEEM  | tic     | 465.835  | 0.379     | 32    | 5572 | Sin           |
| 2   | CSEEM  | tic     | 700.776  | 0.305     | 8     | 6163 | Tanh          |
| 2   | CSEEM  | tic     | 583.529  | 0.38      | 16    | 5378 | Tanh          |
| 2   | CSEEM  | tic     | 496.996  | 0.392     | 32    | 5256 | Tanh          |
| 2   | CSEEM  | tic     | 910.579  | 0.406     | 8     | 4921 | SoftRelu      |
| 2   | CSEEM  | tic     | 88.621   | 0.401     | 16    | 5057 | SoftRelu      |
| 2   | CSEEM  | tic     | 677.361  | 0.381     | 32    | 5222 | SoftRelu      |
| 2   | CSEEM  | tic     | 905.977  | 0.37      | 8     | 5390 | Relu          |
| 2   | CSEEM  | tic     | 895.092  | 0.425     | 16    | 4797 | Relu          |
| 2   | CSEEM  | tic     | 801.966  | 0.36      | 32    | 5523 | Relu          |
| 2   | CSEEM  | tic     | 906.584  | 0.523     | 8     | 3725 | Sigmoid       |
| 2   | CSEEM  | tic     | 780.729  | 0.401     | 16    | 5138 | Sigmoid       |
| 2   | CSEEM  | tic     | 165.435  | 0.367     | 32    | 5383 | Sigmoid       |
| 2   | CSEEM  | tic     | 565.98   | 0.386     | 8     | 5519 | Sin           |
| 2   | CSEEM  | tic     | 203.237  | 0.31      | 16    | 6264 | Sin           |
| 2   | CSEEM  | tic     | 26.926   | 0.38      | 32    | 5556 | Sin           |
| 3   | CSEEM  | tic     | 460.108  | 0.408     | 8     | 5067 | Tanh          |
| 3   | CSEEM  | tic     | 823.482  | 0.433     | 16    | 4710 | Tanh          |
| 3   | CSEEM  | tic     | 506.302  | 0.352     | 32    | 5563 | Tanh          |
| 3   | CSEEM  | tic     | 148.875  | 0.687     | 8     | 1956 | SoftRelu      |
| 3   | CSEEM  | tic     | 167.889  | 0.384     | 16    | 5136 | SoftRelu      |
| 3   | CSEEM  | tic     | 374.807  | 0.413     | 32    | 4813 | SoftRelu      |
| 3   | CSEEM  | tic     | 523.761  | 0.598     | 8     | 2934 | Relu          |
| 3   | CSEEM  | tic     | 279.708  | 0.382     | 16    | 5240 | Relu          |
| 3   | CSEEM  | tic     | 685.986  | 0.331     | 32    | 5719 | Relu          |
| 3   | CSEEM  | tic     | 107.066  | 0.327     | 8     | 5916 | Sigmoid       |
| 3   | CSEEM  | tic     | 737.912  | 0.457     | 16    | 4516 | Sigmoid       |
| 3   | CSEEM  | tic     | 796.712  | 0.335     | 32    | 5751 | Sigmoid       |
| 3   | CSEEM  | tic     | 374.642  | 0.814     | 8     | 1346 | Sin           |
| 3   | CSEEM  | tic     | 706.776  | 0.356     | 16    | 5692 | Sin           |
| 3   | CSEEM  | tic     | 272.176  | 0.372     | 32    | 5632 | Sin           |
| 4   | CSEEM  | tic     | 722.44   | 0.545     | 8     | 3658 | Tanh          |

Table G.53: All CSEEM Results of regression problems (53/61).



| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$  | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|------|---------------|
| 4   | CSEEM  | tic      | 725.742  | 0.399     | 16    | 5185 | Tanh          |
| 4   | CSEEM  | tic      | 879.862  | 0.394     | 32    | 5197 | Tanh          |
| 4   | CSEEM  | tic      | 418.562  | 0.416     | 8     | 4842 | SoftRelu      |
| 4   | CSEEM  | tic      | 40.171   | 0.46      | 16    | 4445 | SoftRelu      |
| 4   | CSEEM  | tic      | 893.465  | 0.377     | 32    | 5304 | SoftRelu      |
| 4   | CSEEM  | tic      | 499.092  | 0.313     | 8     | 6008 | Relu          |
| 4   | CSEEM  | tic      | 837.648  | 0.357     | 16    | 5518 | Relu          |
| 4   | CSEEM  | tic      | 348.521  | 0.377     | 32    | 5273 | Relu          |
| 4   | CSEEM  | tic      | 738.274  | 0.454     | 8     | 4545 | Sigmoid       |
| 4   | CSEEM  | tic      | 153.192  | 0.434     | 16    | 4740 | Sigmoid       |
| 4   | CSEEM  | tic      | 538.384  | 0.36      | 32    | 5612 | Sigmoid       |
| 4   | CSEEM  | tic      | 104.868  | 0.364     | 8     | 5750 | Sin           |
| 4   | CSEEM  | tic      | 443.728  | 0.733     | 16    | 1991 | Sin           |
| 4   | CSEEM  | tic      | 890.698  | 0.351     | 32    | 5849 | Sin           |
| 5   | CSEEM  | tic      | 167.319  | 0.686     | 8     | 2153 | Tanh          |
| 5   | CSEEM  | tic      | 551.734  | 0.375     | 16    | 5443 | Tanh          |
| 5   | CSEEM  | tic      | 0.863    | 0.35      | 32    | 5677 | Tanh          |
| 5   | CSEEM  | tic      | 339.854  | 0.583     | 8     | 2988 | SoftRelu      |
| 5   | CSEEM  | tic      | 927.08   | 0.377     | 16    | 5259 | SoftRelu      |
| 5   | CSEEM  | tic      | 874.457  | 0.366     | 32    | 5385 | SoftRelu      |
| 5   | CSEEM  | tic      | 336.707  | 0.414     | 8     | 4854 | Relu          |
| 5   | CSEEM  | tic      | 765.816  | 0.416     | 16    | 4808 | Relu          |
| 5   | CSEEM  | tic      | 505.296  | 0.409     | 32    | 4832 | Relu          |
| 5   | CSEEM  | tic      | 201.071  | 0.784     | 8     | 1171 | Sigmoid       |
| 5   | CSEEM  | tic      | 969.094  | 0.394     | 16    | 5196 | Sigmoid       |
| 5   | CSEEM  | tic      | 198.408  | 0.344     | 32    | 5668 | Sigmoid       |
| 5   | CSEEM  | tic      | 392.873  | 0.32      | 8     | 6186 | Sin           |
| 5   | CSEEM  | tic      | 254.876  | 0.373     | 16    | 5592 | Sin           |
| 5   | CSEEM  | tic      | 919.413  | 0.41      | 32    | 5221 | Sin           |
| 1   | CSEEM  | treasury | 641.83   | 0.0173    | 8     | 79   | Tanh          |
| 1   | CSEEM  | treasury | 832.095  | 0.0172    | 16    | 79   | Tanh          |
| 1   | CSEEM  | treasury | 79.681   | 0.0147    | 32    | 86   | Tanh          |

Table G.54: All CSEEM Results of regression problems (54/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | treasury | 620.351  | 0.00478   | 8     | 72  | SoftRelu      |
| 1   | CSEEM  | treasury | 850.001  | 0.00491   | 16    | 63  | SoftRelu      |
| 1   | CSEEM  | treasury | 771.689  | 0.00497   | 32    | 62  | SoftRelu      |
| 1   | CSEEM  | treasury | 369.811  | 0.00745   | 8     | 54  | Relu          |
| 1   | CSEEM  | treasury | 29.017   | 0.00613   | 16    | 57  | Relu          |
| 1   | CSEEM  | treasury | 39.192   | 0.00555   | 32    | 66  | Relu          |
| 1   | CSEEM  | treasury | 140.022  | 0.008     | 8     | 106 | Sigmoid       |
| 1   | CSEEM  | treasury | 984.993  | 0.0134    | 16    | 73  | Sigmoid       |
| 1   | CSEEM  | treasury | 272.227  | 0.00725   | 32    | 95  | Sigmoid       |
| 1   | CSEEM  | treasury | 230.966  | 0.0755    | 8     | 279 | Sin           |
| 1   | CSEEM  | treasury | 323.0    | 0.0952    | 16    | 259 | Sin           |
| 1   | CSEEM  | treasury | 430.158  | 0.0757    | 32    | 273 | Sin           |
| 2   | CSEEM  | treasury | 125.902  | 0.018     | 8     | 56  | Tanh          |
| 2   | CSEEM  | treasury | 858.002  | 0.0156    | 16    | 81  | Tanh          |
| 2   | CSEEM  | treasury | 867.275  | 0.0117    | 32    | 89  | Tanh          |
| 2   | CSEEM  | treasury | 252.267  | 0.00372   | 8     | 61  | SoftRelu      |
| 2   | CSEEM  | treasury | 180.0    | 0.0052    | 16    | 66  | SoftRelu      |
| 2   | CSEEM  | treasury | 185.67   | 0.0059    | 32    | 40  | SoftRelu      |
| 2   | CSEEM  | treasury | 959.262  | 0.00398   | 8     | 73  | Relu          |
| 2   | CSEEM  | treasury | 370.002  | 0.00355   | 16    | 78  | Relu          |
| 2   | CSEEM  | treasury | 540.2    | 0.00655   | 32    | 52  | Relu          |
| 2   | CSEEM  | treasury | 231.775  | 0.00988   | 8     | 83  | Sigmoid       |
| 2   | CSEEM  | treasury | 415.091  | 0.00925   | 16    | 90  | Sigmoid       |
| 2   | CSEEM  | treasury | 221.171  | 0.00841   | 32    | 84  | Sigmoid       |
| 2   | CSEEM  | treasury | 372.464  | 0.104     | 8     | 245 | Sin           |
| 2   | CSEEM  | treasury | 62.165   | 0.106     | 16    | 223 | Sin           |
| 2   | CSEEM  | treasury | 727.268  | 0.0706    | 32    | 272 | Sin           |
| 3   | CSEEM  | treasury | 961.676  | 0.0129    | 8     | 106 | Tanh          |
| 3   | CSEEM  | treasury | 591.05   | 0.0121    | 16    | 77  | Tanh          |
| 3   | CSEEM  | treasury | 483.048  | 0.011     | 32    | 104 | Tanh          |
| 3   | CSEEM  | treasury | 278.659  | 0.00523   | 8     | 64  | SoftRelu      |
| 3   | CSEEM  | treasury | 645.999  | 0.00572   | 16    | 62  | SoftRelu      |

Table G.55: All CSEEM Results of regression problems (55/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 3   | CSEEM  | treasury | 691.843  | 0.00484   | 32    | 45  | SoftRelu      |
| 3   | CSEEM  | treasury | 401.064  | 0.00539   | 8     | 68  | Relu          |
| 3   | CSEEM  | treasury | 384.0    | 0.0033    | 16    | 79  | Relu          |
| 3   | CSEEM  | treasury | 764.369  | 0.00456   | 32    | 77  | Relu          |
| 3   | CSEEM  | treasury | 344.169  | 0.00937   | 8     | 84  | Sigmoid       |
| 3   | CSEEM  | treasury | 95.0     | 0.0124    | 16    | 80  | Sigmoid       |
| 3   | CSEEM  | treasury | 663.072  | 0.00816   | 32    | 102 | Sigmoid       |
| 3   | CSEEM  | treasury | 757.751  | 0.0947    | 8     | 239 | Sin           |
| 3   | CSEEM  | treasury | 905.0    | 0.088     | 16    | 284 | Sin           |
| 3   | CSEEM  | treasury | 439.902  | 0.0943    | 32    | 241 | Sin           |
| 4   | CSEEM  | treasury | 794.919  | 0.0168    | 8     | 92  | Tanh          |
| 4   | CSEEM  | treasury | 836.138  | 0.012     | 16    | 87  | Tanh          |
| 4   | CSEEM  | treasury | 272.176  | 0.0133    | 32    | 96  | Tanh          |
| 4   | CSEEM  | treasury | 444.11   | 0.00697   | 8     | 52  | SoftRelu      |
| 4   | CSEEM  | treasury | 960.0    | 0.0029    | 16    | 83  | SoftRelu      |
| 4   | CSEEM  | treasury | 387.459  | 0.00382   | 32    | 70  | SoftRelu      |
| 4   | CSEEM  | treasury | 61.255   | 0.00628   | 8     | 63  | Relu          |
| 4   | CSEEM  | treasury | 162.015  | 0.00488   | 16    | 74  | Relu          |
| 4   | CSEEM  | treasury | 481.815  | 0.00348   | 32    | 70  | Relu          |
| 4   | CSEEM  | treasury | 634.0    | 0.0113    | 8     | 73  | Sigmoid       |
| 4   | CSEEM  | treasury | 186.0    | 0.0075    | 16    | 80  | Sigmoid       |
| 4   | CSEEM  | treasury | 845.002  | 0.00835   | 32    | 99  | Sigmoid       |
| 4   | CSEEM  | treasury | 238.478  | 0.107     | 8     | 212 | Sin           |
| 4   | CSEEM  | treasury | 221.0    | 0.0741    | 16    | 290 | Sin           |
| 4   | CSEEM  | treasury | 679.891  | 0.103     | 32    | 197 | Sin           |
| 5   | CSEEM  | treasury | 807.121  | 0.0151    | 8     | 93  | Tanh          |
| 5   | CSEEM  | treasury | 620.999  | 0.017     | 16    | 85  | Tanh          |
| 5   | CSEEM  | treasury | 153.021  | 0.0135    | 32    | 100 | Tanh          |
| 5   | CSEEM  | treasury | 463.957  | 0.0063    | 8     | 61  | SoftRelu      |
| 5   | CSEEM  | treasury | 320.001  | 0.00501   | 16    | 75  | SoftRelu      |
| 5   | CSEEM  | treasury | 180.0    | 0.00317   | 32    | 67  | SoftRelu      |
| 5   | CSEEM  | treasury | 201.0    | 0.00418   | 8     | 83  | Relu          |

Table G.56: All CSEEM Results of regression problems (56/61).

| Run | Method | Dataset  | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|----------|----------|-----------|-------|-----|---------------|
| 5   | CSEEM  | treasury | 202.999  | 0.00619   | 16    | 61  | Relu          |
| 5   | CSEEM  | treasury | 613.999  | 0.00521   | 32    | 61  | Relu          |
| 5   | CSEEM  | treasury | 623.119  | 0.011     | 8     | 90  | Sigmoid       |
| 5   | CSEEM  | treasury | 406.02   | 0.0085    | 16    | 76  | Sigmoid       |
| 5   | CSEEM  | treasury | 399.004  | 0.00713   | 32    | 88  | Sigmoid       |
| 5   | CSEEM  | treasury | 441.999  | 0.0914    | 8     | 275 | Sin           |
| 5   | CSEEM  | treasury | 229.347  | 0.0824    | 16    | 252 | Sin           |
| 5   | CSEEM  | treasury | 713.044  | 0.0822    | 32    | 286 | Sin           |
| 1   | CSEEM  | wankara  | 26.552   | 0.00487   | 8     | 76  | Tanh          |
| 1   | CSEEM  | wankara  | 178.002  | 0.00486   | 16    | 77  | Tanh          |
| 1   | CSEEM  | wankara  | 654.514  | 0.00437   | 32    | 61  | Tanh          |
| 1   | CSEEM  | wankara  | 833.121  | 0.00103   | 8     | 43  | SoftRelu      |
| 1   | CSEEM  | wankara  | 471.011  | 0.00104   | 16    | 49  | SoftRelu      |
| 1   | CSEEM  | wankara  | 799.99   | 0.00092   | 32    | 50  | SoftRelu      |
| 1   | CSEEM  | wankara  | 230.992  | 0.00128   | 8     | 56  | Relu          |
| 1   | CSEEM  | wankara  | 118.055  | 0.00133   | 16    | 53  | Relu          |
| 1   | CSEEM  | wankara  | 91.207   | 0.00135   | 32    | 42  | Relu          |
| 1   | CSEEM  | wankara  | 849.691  | 0.00259   | 8     | 61  | Sigmoid       |
| 1   | CSEEM  | wankara  | 655.862  | 0.00289   | 16    | 59  | Sigmoid       |
| 1   | CSEEM  | wankara  | 126.054  | 0.00294   | 32    | 43  | Sigmoid       |
| 1   | CSEEM  | wankara  | 946.548  | 0.0189    | 8     | 110 | Sin           |
| 1   | CSEEM  | wankara  | 970.992  | 0.0226    | 16    | 127 | Sin           |
| 1   | CSEEM  | wankara  | 98.547   | 0.0142    | 32    | 183 | Sin           |
| 2   | CSEEM  | wankara  | 146.039  | 0.00553   | 8     | 62  | Tanh          |
| 2   | CSEEM  | wankara  | 469.001  | 0.00393   | 16    | 78  | Tanh          |
| 2   | CSEEM  | wankara  | 163.007  | 0.00433   | 32    | 48  | Tanh          |
| 2   | CSEEM  | wankara  | 829.399  | 0.00139   | 8     | 45  | SoftRelu      |
| 2   | CSEEM  | wankara  | 504.0    | 0.00116   | 16    | 41  | SoftRelu      |
| 2   | CSEEM  | wankara  | 714.372  | 0.00108   | 32    | 49  | SoftRelu      |
| 2   | CSEEM  | wankara  | 386.432  | 0.00156   | 8     | 36  | Relu          |
| 2   | CSEEM  | wankara  | 911.0    | 0.00141   | 16    | 50  | Relu          |
| 2   | CSEEM  | wankara  | 715.799  | 0.00128   | 32    | 40  | Relu          |

Table G.57: All CSEEM Results of regression problems (57/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 2   | CSEEM  | wankara | 200.019  | 0.0025    | 8     | 68  | Sigmoid       |
| 2   | CSEEM  | wankara | 548.999  | 0.00301   | 16    | 48  | Sigmoid       |
| 2   | CSEEM  | wankara | 787.78   | 0.00219   | 32    | 61  | Sigmoid       |
| 2   | CSEEM  | wankara | 718.692  | 0.0178    | 8     | 212 | Sin           |
| 2   | CSEEM  | wankara | 976.008  | 0.0209    | 16    | 182 | Sin           |
| 2   | CSEEM  | wankara | 12.893   | 0.0211    | 32    | 170 | Sin           |
| 3   | CSEEM  | wankara | 542.718  | 0.0059    | 8     | 62  | Tanh          |
| 3   | CSEEM  | wankara | 613.999  | 0.00521   | 16    | 47  | Tanh          |
| 3   | CSEEM  | wankara | 198.709  | 0.00406   | 32    | 60  | Tanh          |
| 3   | CSEEM  | wankara | 213.081  | 0.00235   | 8     | 35  | SoftRelu      |
| 3   | CSEEM  | wankara | 923.007  | 0.00107   | 16    | 40  | SoftRelu      |
| 3   | CSEEM  | wankara | 707.138  | 0.00129   | 32    | 43  | SoftRelu      |
| 3   | CSEEM  | wankara | 493.858  | 0.00111   | 8     | 53  | Relu          |
| 3   | CSEEM  | wankara | 973.997  | 0.00134   | 16    | 49  | Relu          |
| 3   | CSEEM  | wankara | 242.734  | 0.00164   | 32    | 41  | Relu          |
| 3   | CSEEM  | wankara | 284.189  | 0.00211   | 8     | 56  | Sigmoid       |
| 3   | CSEEM  | wankara | 84.999   | 0.00287   | 16    | 47  | Sigmoid       |
| 3   | CSEEM  | wankara | 879.521  | 0.0023    | 32    | 53  | Sigmoid       |
| 3   | CSEEM  | wankara | 949.847  | 0.0196    | 8     | 187 | Sin           |
| 3   | CSEEM  | wankara | 606.999  | 0.00653   | 16    | 204 | Sin           |
| 3   | CSEEM  | wankara | 917.465  | 0.0206    | 32    | 188 | Sin           |
| 4   | CSEEM  | wankara | 778.329  | 0.00466   | 8     | 61  | Tanh          |
| 4   | CSEEM  | wankara | 286.51   | 0.00445   | 16    | 56  | Tanh          |
| 4   | CSEEM  | wankara | 285.917  | 0.00525   | 32    | 31  | Tanh          |
| 4   | CSEEM  | wankara | 900.178  | 0.001     | 8     | 47  | SoftRelu      |
| 4   | CSEEM  | wankara | 684.009  | 0.00111   | 16    | 49  | SoftRelu      |
| 4   | CSEEM  | wankara | 787.407  | 0.00128   | 32    | 46  | SoftRelu      |
| 4   | CSEEM  | wankara | 401.001  | 0.00226   | 8     | 31  | Relu          |
| 4   | CSEEM  | wankara | 526.001  | 0.00159   | 16    | 41  | Relu          |
| 4   | CSEEM  | wankara | 879.807  | 0.00154   | 32    | 39  | Relu          |
| 4   | CSEEM  | wankara | 899.003  | 0.00245   | 8     | 56  | Sigmoid       |
| 4   | CSEEM  | wankara | 952.998  | 0.00274   | 16    | 63  | Sigmoid       |

Table G.58: All CSEEM Results of regression problems (58/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | wankara | 780.997  | 0.00289   | 32    | 54  | Sigmoid       |
| 4   | CSEEM  | wankara | 845.508  | 0.0166    | 8     | 254 | Sin           |
| 4   | CSEEM  | wankara | 698.51   | 0.0245    | 16    | 143 | Sin           |
| 4   | CSEEM  | wankara | 702.138  | 0.0274    | 32    | 142 | Sin           |
| 5   | CSEEM  | wankara | 357.999  | 0.0044    | 8     | 73  | Tanh          |
| 5   | CSEEM  | wankara | 297.002  | 0.00448   | 16    | 53  | Tanh          |
| 5   | CSEEM  | wankara | 387.626  | 0.00383   | 32    | 92  | Tanh          |
| 5   | CSEEM  | wankara | 144.003  | 0.00219   | 8     | 32  | SoftRelu      |
| 5   | CSEEM  | wankara | 272.554  | 0.00143   | 16    | 29  | SoftRelu      |
| 5   | CSEEM  | wankara | 47.998   | 0.00103   | 32    | 44  | SoftRelu      |
| 5   | CSEEM  | wankara | 515.0    | 0.00109   | 8     | 57  | Relu          |
| 5   | CSEEM  | wankara | 610.0    | 0.00117   | 16    | 50  | Relu          |
| 5   | CSEEM  | wankara | 809.0    | 0.00131   | 32    | 40  | Relu          |
| 5   | CSEEM  | wankara | 296.99   | 0.00275   | 8     | 43  | Sigmoid       |
| 5   | CSEEM  | wankara | 951.007  | 0.00327   | 16    | 52  | Sigmoid       |
| 5   | CSEEM  | wankara | 391.283  | 0.00221   | 32    | 67  | Sigmoid       |
| 5   | CSEEM  | wankara | 9.593    | 0.0195    | 8     | 158 | Sin           |
| 5   | CSEEM  | wankara | 323.129  | 0.0343    | 16    | 74  | Sin           |
| 5   | CSEEM  | wankara | 517.517  | 0.0214    | 32    | 79  | Sin           |
| 1   | CSEEM  | wizmir  | 897.604  | 0.0054    | 8     | 66  | Tanh          |
| 1   | CSEEM  | wizmir  | 766.0    | 0.00589   | 16    | 41  | Tanh          |
| 1   | CSEEM  | wizmir  | 491.232  | 0.00583   | 32    | 63  | Tanh          |
| 1   | CSEEM  | wizmir  | 43.266   | 0.00141   | 8     | 48  | SoftRelu      |
| 1   | CSEEM  | wizmir  | 462.0    | 0.00131   | 16    | 45  | SoftRelu      |
| 1   | CSEEM  | wizmir  | 98.88    | 0.00134   | 32    | 39  | SoftRelu      |
| 1   | CSEEM  | wizmir  | 752.414  | 0.00243   | 8     | 44  | Relu          |
| 1   | CSEEM  | wizmir  | 858.232  | 0.00172   | 16    | 48  | Relu          |
| 1   | CSEEM  | wizmir  | 732.425  | 0.00201   | 32    | 48  | Relu          |
| 1   | CSEEM  | wizmir  | 380.939  | 0.00354   | 8     | 69  | Sigmoid       |
| 1   | CSEEM  | wizmir  | 567.007  | 0.00263   | 16    | 44  | Sigmoid       |
| 1   | CSEEM  | wizmir  | 380.607  | 0.00353   | 32    | 54  | Sigmoid       |
| 1   | CSEEM  | wizmir  | 789.936  | 0.0194    | 8     | 156 | Sin           |

Table G.59: All CSEEM Results of regression problems (59/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 1   | CSEEM  | wizmir  | 431.008  | 0.0245    | 16    | 109 | Sin           |
| 1   | CSEEM  | wizmir  | 961.407  | 0.0217    | 32    | 153 | Sin           |
| 2   | CSEEM  | wizmir  | 799.65   | 0.00511   | 8     | 70  | Tanh          |
| 2   | CSEEM  | wizmir  | 507.997  | 0.0037    | 16    | 97  | Tanh          |
| 2   | CSEEM  | wizmir  | 605.052  | 0.00488   | 32    | 56  | Tanh          |
| 2   | CSEEM  | wizmir  | 789.002  | 0.00137   | 8     | 48  | SoftRelu      |
| 2   | CSEEM  | wizmir  | 298.001  | 0.00118   | 16    | 43  | SoftRelu      |
| 2   | CSEEM  | wizmir  | 76.141   | 0.00141   | 32    | 40  | SoftRelu      |
| 2   | CSEEM  | wizmir  | 390.173  | 0.00182   | 8     | 47  | Relu          |
| 2   | CSEEM  | wizmir  | 413.993  | 0.00185   | 16    | 50  | Relu          |
| 2   | CSEEM  | wizmir  | 909.854  | 0.00151   | 32    | 47  | Relu          |
| 2   | CSEEM  | wizmir  | 187.58   | 0.00365   | 8     | 53  | Sigmoid       |
| 2   | CSEEM  | wizmir  | 22.971   | 0.00297   | 16    | 54  | Sigmoid       |
| 2   | CSEEM  | wizmir  | 540.751  | 0.00255   | 32    | 53  | Sigmoid       |
| 2   | CSEEM  | wizmir  | 777.8    | 0.0257    | 8     | 171 | Sin           |
| 2   | CSEEM  | wizmir  | 847.827  | 0.0262    | 16    | 70  | Sin           |
| 2   | CSEEM  | wizmir  | 171.1    | 0.0225    | 32    | 93  | Sin           |
| 3   | CSEEM  | wizmir  | 709.897  | 0.00515   | 8     | 78  | Tanh          |
| 3   | CSEEM  | wizmir  | 333.001  | 0.00369   | 16    | 86  | Tanh          |
| 3   | CSEEM  | wizmir  | 471.914  | 0.00461   | 32    | 76  | Tanh          |
| 3   | CSEEM  | wizmir  | 353.266  | 0.0019    | 8     | 39  | SoftRelu      |
| 3   | CSEEM  | wizmir  | 2.593    | 0.00183   | 16    | 33  | SoftRelu      |
| 3   | CSEEM  | wizmir  | 147.654  | 0.00149   | 32    | 45  | SoftRelu      |
| 3   | CSEEM  | wizmir  | 795.237  | 0.00162   | 8     | 53  | Relu          |
| 3   | CSEEM  | wizmir  | 329.0    | 0.00223   | 16    | 35  | Relu          |
| 3   | CSEEM  | wizmir  | 8.811    | 0.00199   | 32    | 37  | Relu          |
| 3   | CSEEM  | wizmir  | 651.118  | 0.00382   | 8     | 54  | Sigmoid       |
| 3   | CSEEM  | wizmir  | 225.011  | 0.00351   | 16    | 61  | Sigmoid       |
| 3   | CSEEM  | wizmir  | 889.447  | 0.00334   | 32    | 59  | Sigmoid       |
| 3   | CSEEM  | wizmir  | 719.433  | 0.0219    | 8     | 214 | Sin           |
| 3   | CSEEM  | wizmir  | 280.997  | 0.0221    | 16    | 176 | Sin           |
| 3   | CSEEM  | wizmir  | 824.744  | 0.0242    | 32    | 163 | Sin           |

Table G.60: All CSEEM Results of regression problems (60/61).

| Run | Method | Dataset | Time (s) | Norm Loss | $n_c$ | $k$ | $\phi(\cdot)$ |
|-----|--------|---------|----------|-----------|-------|-----|---------------|
| 4   | CSEEM  | wizmir  | 784.521  | 0.00572   | 8     | 46  | Tanh          |
| 4   | CSEEM  | wizmir  | 541.007  | 0.00665   | 16    | 47  | Tanh          |
| 4   | CSEEM  | wizmir  | 797.703  | 0.00491   | 32    | 63  | Tanh          |
| 4   | CSEEM  | wizmir  | 326.326  | 0.0015    | 8     | 47  | SoftRelu      |
| 4   | CSEEM  | wizmir  | 161.0    | 0.00163   | 16    | 35  | SoftRelu      |
| 4   | CSEEM  | wizmir  | 912.614  | 0.00138   | 32    | 41  | SoftRelu      |
| 4   | CSEEM  | wizmir  | 287.007  | 0.00168   | 8     | 46  | Relu          |
| 4   | CSEEM  | wizmir  | 811.993  | 0.00159   | 16    | 47  | Relu          |
| 4   | CSEEM  | wizmir  | 467.297  | 0.0014    | 32    | 48  | Relu          |
| 4   | CSEEM  | wizmir  | 646.999  | 0.0032    | 8     | 60  | Sigmoid       |
| 4   | CSEEM  | wizmir  | 540.0    | 0.00279   | 16    | 69  | Sigmoid       |
| 4   | CSEEM  | wizmir  | 407.997  | 0.00373   | 32    | 47  | Sigmoid       |
| 4   | CSEEM  | wizmir  | 829.928  | 0.0192    | 8     | 125 | Sin           |
| 4   | CSEEM  | wizmir  | 442.001  | 0.0218    | 16    | 155 | Sin           |
| 4   | CSEEM  | wizmir  | 189.691  | 0.0232    | 32    | 107 | Sin           |
| 5   | CSEEM  | wizmir  | 782.51   | 0.00687   | 8     | 48  | Tanh          |
| 5   | CSEEM  | wizmir  | 268.001  | 0.00471   | 16    | 79  | Tanh          |
| 5   | CSEEM  | wizmir  | 185.015  | 0.00689   | 32    | 57  | Tanh          |
| 5   | CSEEM  | wizmir  | 397.002  | 0.00139   | 8     | 42  | SoftRelu      |
| 5   | CSEEM  | wizmir  | 433.998  | 0.00133   | 16    | 49  | SoftRelu      |
| 5   | CSEEM  | wizmir  | 227.0    | 0.00133   | 32    | 41  | SoftRelu      |
| 5   | CSEEM  | wizmir  | 650.006  | 0.00193   | 8     | 55  | Relu          |
| 5   | CSEEM  | wizmir  | 220.066  | 0.00144   | 16    | 53  | Relu          |
| 5   | CSEEM  | wizmir  | 508.031  | 0.00182   | 32    | 47  | Relu          |
| 5   | CSEEM  | wizmir  | 549.987  | 0.00375   | 8     | 49  | Sigmoid       |
| 5   | CSEEM  | wizmir  | 627.079  | 0.0033    | 16    | 47  | Sigmoid       |
| 5   | CSEEM  | wizmir  | 696.01   | 0.00347   | 32    | 63  | Sigmoid       |
| 5   | CSEEM  | wizmir  | 186.679  | 0.022     | 8     | 157 | Sin           |
| 5   | CSEEM  | wizmir  | 992.009  | 0.0198    | 16    | 187 | Sin           |
| 5   | CSEEM  | wizmir  | 468.244  | 0.0238    | 32    | 120 | Sin           |

Table G.61: All CSEEM Results of regression problems (61/61).





## Appendix H

### RMSProp Regression All Results

| Run | Method  | Dataset | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|---------|----------|-----------|-------|------|---------------|
| 1   | RMSProp | ANACALT | 771.52   | 0.124     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | ANACALT | 747.001  | 104       | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | ANACALT | 731.554  | 69.4      | 1000  | 1000 | Relu          |
| 1   | RMSProp | ANACALT | 431.652  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | ANACALT | 617.967  | 0.147     | 1000  | 1000 | Sin           |
| 2   | RMSProp | ANACALT | 114.125  | 0.124     | 1000  | 1000 | Tanh          |
| 2   | RMSProp | ANACALT | 148.113  | 85.8      | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | ANACALT | 678.955  | 89.3      | 1000  | 1000 | Relu          |
| 2   | RMSProp | ANACALT | 66.0     | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | ANACALT | 107.417  | 0.339     | 1000  | 1000 | Sin           |
| 3   | RMSProp | ANACALT | 543.092  | 0.124     | 1000  | 1000 | Tanh          |
| 3   | RMSProp | ANACALT | 53.822   | 81        | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | ANACALT | 634.603  | 69.2      | 1000  | 1000 | Relu          |
| 3   | RMSProp | ANACALT | 398.523  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | ANACALT | 372.001  | 0.0991    | 1000  | 1000 | Sin           |
| 4   | RMSProp | ANACALT | 313.226  | 0.124     | 1000  | 1000 | Tanh          |
| 4   | RMSProp | ANACALT | 675.55   | 70        | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | ANACALT | 806.087  | 72.6      | 1000  | 1000 | Relu          |
| 4   | RMSProp | ANACALT | 397.0    | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | ANACALT | 78.897   | 0.159     | 1000  | 1000 | Sin           |
| 5   | RMSProp | ANACALT | 538.64   | 0.124     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | ANACALT | 49.532   | 93.6      | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | ANACALT | 751.527  | 86.6      | 1000  | 1000 | Relu          |
| 5   | RMSProp | ANACALT | 854.55   | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | ANACALT | 581.556  | 2.37      | 1000  | 1000 | Sin           |
| 1   | RMSProp | abalone | 700.127  | 0.0461    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | abalone | 769.721  | 0.0477    | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | abalone | 607.625  | 0.0445    | 1000  | 1000 | Relu          |
| 1   | RMSProp | abalone | 127.56   | 0.0517    | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | abalone | 119.0    | 0.0461    | 1000  | 1000 | Sin           |
| 2   | RMSProp | abalone | 604.22   | 0.0461    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | abalone | 982.048  | 0.0477    | 1000  | 1000 | SoftRelu      |

Table H.1: All RMSProp Results of regression problems (1/21).

| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 2   | RMSProp | abalone  | 418.022  | 0.0446    | 1000  | 1000 | Relu          |
| 2   | RMSProp | abalone  | 803.806  | 0.0518    | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | abalone  | 704.51   | 0.0462    | 1000  | 1000 | Sin           |
| 3   | RMSProp | abalone  | 806.006  | 0.0461    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | abalone  | 882.641  | 0.0477    | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | abalone  | 145.266  | 0.0445    | 1000  | 1000 | Relu          |
| 3   | RMSProp | abalone  | 74.546   | 0.0517    | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | abalone  | 818.088  | 0.0461    | 1000  | 1000 | Sin           |
| 4   | RMSProp | abalone  | 797.892  | 0.0461    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | abalone  | 748.589  | 0.0477    | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | abalone  | 268.91   | 0.0445    | 1000  | 1000 | Relu          |
| 4   | RMSProp | abalone  | 31.509   | 0.0517    | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | abalone  | 584.955  | 0.0461    | 1000  | 1000 | Sin           |
| 5   | RMSProp | abalone  | 778.999  | 0.0461    | 1000  | 1000 | Tanh          |
| 5   | RMSProp | abalone  | 98.038   | 0.0477    | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | abalone  | 157.437  | 0.0445    | 1000  | 1000 | Relu          |
| 5   | RMSProp | abalone  | 512.06   | 0.0518    | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | abalone  | 963.999  | 0.0462    | 1000  | 1000 | Sin           |
| 1   | RMSProp | autoMPG6 | 116.998  | 0.0257    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | autoMPG6 | 798.0    | 1.72      | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | autoMPG6 | 599.222  | 1.9       | 1000  | 1000 | Relu          |
| 1   | RMSProp | autoMPG6 | 771.067  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | autoMPG6 | 407.17   | 0.591     | 1000  | 1000 | Sin           |
| 2   | RMSProp | autoMPG6 | 911.528  | 0.0266    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | autoMPG6 | 709.678  | 1.51      | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | autoMPG6 | 216.418  | 1.65      | 1000  | 1000 | Relu          |
| 2   | RMSProp | autoMPG6 | 612.486  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | autoMPG6 | 401.997  | 0.67      | 1000  | 1000 | Sin           |
| 3   | RMSProp | autoMPG6 | 856.001  | 0.0231    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | autoMPG6 | 983.118  | 1.43      | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | autoMPG6 | 667.435  | 1.58      | 1000  | 1000 | Relu          |
| 3   | RMSProp | autoMPG6 | 756.54   | nan       | 1000  | 1000 | Sigmoid       |

Table H.2: All RMSProp Results of regression problems (2/21).

| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 3   | RMSProp | autoMPG6 | 269.887  | 0.571     | 1000  | 1000 | Sin           |
| 4   | RMSProp | autoMPG6 | 750.28   | 0.0363    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | autoMPG6 | 868.686  | 1.97      | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | autoMPG6 | 626.999  | 1.5       | 1000  | 1000 | Relu          |
| 4   | RMSProp | autoMPG6 | 778.494  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | autoMPG6 | 50.053   | 0.639     | 1000  | 1000 | Sin           |
| 5   | RMSProp | autoMPG6 | 869.964  | 0.0282    | 1000  | 1000 | Tanh          |
| 5   | RMSProp | autoMPG6 | 756.96   | 1.48      | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | autoMPG6 | 600.948  | 1.56      | 1000  | 1000 | Relu          |
| 5   | RMSProp | autoMPG6 | 59.014   | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | autoMPG6 | 356.039  | 0.722     | 1000  | 1000 | Sin           |
| 1   | RMSProp | autoMPG8 | 71.991   | 0.0232    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | autoMPG8 | 792.001  | 1.6       | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | autoMPG8 | 622.018  | 1.48      | 1000  | 1000 | Relu          |
| 1   | RMSProp | autoMPG8 | 798.101  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | autoMPG8 | 577.011  | 0.686     | 1000  | 1000 | Sin           |
| 2   | RMSProp | autoMPG8 | 229.0    | 0.0241    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | autoMPG8 | 886.037  | 1.64      | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | autoMPG8 | 338.996  | 1.67      | 1000  | 1000 | Relu          |
| 2   | RMSProp | autoMPG8 | 948.995  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | autoMPG8 | 845.988  | 0.598     | 1000  | 1000 | Sin           |
| 3   | RMSProp | autoMPG8 | 59.772   | 0.0245    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | autoMPG8 | 70.916   | 1.76      | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | autoMPG8 | 756.974  | 1.52      | 1000  | 1000 | Relu          |
| 3   | RMSProp | autoMPG8 | 817.132  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | autoMPG8 | 250.069  | 0.655     | 1000  | 1000 | Sin           |
| 4   | RMSProp | autoMPG8 | 855.194  | 0.0286    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | autoMPG8 | 744.735  | 1.63      | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | autoMPG8 | 751.978  | 1.7       | 1000  | 1000 | Relu          |
| 4   | RMSProp | autoMPG8 | 815.357  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | autoMPG8 | 134.009  | 0.742     | 1000  | 1000 | Sin           |
| 5   | RMSProp | autoMPG8 | 67.001   | 0.0268    | 1000  | 1000 | Tanh          |

Table H.3: All RMSProp Results of regression problems (3/21).

| Run | Method  | Dataset   | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|-----------|----------|-----------|-------|------|---------------|
| 5   | RMSProp | autoMPG8  | 673.494  | 1.67      | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | autoMPG8  | 626.913  | 1.79      | 1000  | 1000 | Relu          |
| 5   | RMSProp | autoMPG8  | 65.013   | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | autoMPG8  | 375.001  | 0.851     | 1000  | 1000 | Sin           |
| 1   | RMSProp | baseball  | 695.434  | 0.446     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | baseball  | 394.0    | 0.178     | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | baseball  | 470.0    | 0.186     | 1000  | 1000 | Relu          |
| 1   | RMSProp | baseball  | 548.989  | 0.468     | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | baseball  | 373.989  | 0.648     | 1000  | 1000 | Sin           |
| 2   | RMSProp | baseball  | 105.309  | 0.446     | 1000  | 1000 | Tanh          |
| 2   | RMSProp | baseball  | 612.082  | 0.179     | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | baseball  | 111.071  | 0.188     | 1000  | 1000 | Relu          |
| 2   | RMSProp | baseball  | 558.085  | 0.468     | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | baseball  | 696.999  | 0.644     | 1000  | 1000 | Sin           |
| 3   | RMSProp | baseball  | 968.268  | 0.446     | 1000  | 1000 | Tanh          |
| 3   | RMSProp | baseball  | 857.911  | 0.179     | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | baseball  | 543.437  | 0.186     | 1000  | 1000 | Relu          |
| 3   | RMSProp | baseball  | 492.087  | 0.469     | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | baseball  | 141.805  | 0.648     | 1000  | 1000 | Sin           |
| 4   | RMSProp | baseball  | 705.287  | 0.446     | 1000  | 1000 | Tanh          |
| 4   | RMSProp | baseball  | 411.0    | 0.178     | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | baseball  | 595.001  | 0.186     | 1000  | 1000 | Relu          |
| 4   | RMSProp | baseball  | 667.33   | 0.468     | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | baseball  | 904.005  | 0.65      | 1000  | 1000 | Sin           |
| 5   | RMSProp | baseball  | 813.009  | 0.446     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | baseball  | 595.029  | 0.179     | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | baseball  | 499.789  | 0.186     | 1000  | 1000 | Relu          |
| 5   | RMSProp | baseball  | 915.001  | 0.468     | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | baseball  | 229.0    | 0.642     | 1000  | 1000 | Sin           |
| 1   | RMSProp | compactiv | 194.543  | 0.0068    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | compactiv | 940.999  | 2.44e+04  | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | compactiv | 901.549  | 2.31e+04  | 1000  | 1000 | Relu          |

Table H.4: All RMSProp Results of regression problems (4/21).

| Run | Method  | Dataset   | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|-----------|----------|-----------|-------|------|---------------|
| 1   | RMSProp | compactiv | 794.66   | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | compactiv | 162.524  | 0.977     | 1000  | 1000 | Sin           |
| 2   | RMSProp | compactiv | 960.0    | 0.00738   | 1000  | 1000 | Tanh          |
| 2   | RMSProp | compactiv | 858.033  | 2.55e+04  | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | compactiv | 74.567   | 2.41e+04  | 1000  | 1000 | Relu          |
| 2   | RMSProp | compactiv | 269.001  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | compactiv | 362.117  | 0.977     | 1000  | 1000 | Sin           |
| 3   | RMSProp | compactiv | 20.999   | 0.0068    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | compactiv | 295.697  | 2.74e+04  | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | compactiv | 873.041  | 1.97e+04  | 1000  | 1000 | Relu          |
| 3   | RMSProp | compactiv | 905.028  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | compactiv | 638.6    | 0.977     | 1000  | 1000 | Sin           |
| 4   | RMSProp | compactiv | 822.609  | 0.00698   | 1000  | 1000 | Tanh          |
| 4   | RMSProp | compactiv | 495.129  | 2.33e+04  | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | compactiv | 653.104  | 2.46e+04  | 1000  | 1000 | Relu          |
| 4   | RMSProp | compactiv | 510.592  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | compactiv | 691.644  | 0.977     | 1000  | 1000 | Sin           |
| 5   | RMSProp | compactiv | 707.998  | 0.00658   | 1000  | 1000 | Tanh          |
| 5   | RMSProp | compactiv | 531.003  | 2.4e+04   | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | compactiv | 714.177  | 2.26e+04  | 1000  | 1000 | Relu          |
| 5   | RMSProp | compactiv | 285.115  | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | compactiv | 861.999  | 0.977     | 1000  | 1000 | Sin           |
| 1   | RMSProp | concrete  | 73.051   | 0.0179    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | concrete  | 195.002  | 0.103     | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | concrete  | 36.002   | 0.109     | 1000  | 1000 | Relu          |
| 1   | RMSProp | concrete  | 808.055  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | concrete  | 165.512  | 0.317     | 1000  | 1000 | Sin           |
| 2   | RMSProp | concrete  | 206.0    | 0.0239    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | concrete  | 784.913  | 0.102     | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | concrete  | 557.177  | 0.129     | 1000  | 1000 | Relu          |
| 2   | RMSProp | concrete  | 225.211  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | concrete  | 880.825  | 0.0981    | 1000  | 1000 | Sin           |

Table H.5: All RMSProp Results of regression problems (5/21).

| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 3   | RMSProp | concrete | 172.832  | 0.0239    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | concrete | 640.81   | 0.124     | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | concrete | 698.515  | 0.106     | 1000  | 1000 | Relu          |
| 3   | RMSProp | concrete | 73.001   | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | concrete | 954.087  | 0.104     | 1000  | 1000 | Sin           |
| 4   | RMSProp | concrete | 744.312  | 0.0289    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | concrete | 308.044  | 0.102     | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | concrete | 692.0    | 0.115     | 1000  | 1000 | Relu          |
| 4   | RMSProp | concrete | 608.001  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | concrete | 911.002  | 0.134     | 1000  | 1000 | Sin           |
| 5   | RMSProp | concrete | 731.888  | 0.0215    | 1000  | 1000 | Tanh          |
| 5   | RMSProp | concrete | 307.073  | 0.102     | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | concrete | 538.206  | 0.114     | 1000  | 1000 | Relu          |
| 5   | RMSProp | concrete | 891.125  | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | concrete | 696.045  | 0.119     | 1000  | 1000 | Sin           |
| 1   | RMSProp | dee      | 448.3    | 0.0298    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | dee      | 563.007  | 4.07e+05  | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | dee      | 474.083  | 3.39e+05  | 1000  | 1000 | Relu          |
| 1   | RMSProp | dee      | 588.001  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | dee      | 282.0    | 0.499     | 1000  | 1000 | Sin           |
| 2   | RMSProp | dee      | 593.999  | 0.0294    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | dee      | 848.998  | 3.78e+05  | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | dee      | 674.327  | 3.32e+05  | 1000  | 1000 | Relu          |
| 2   | RMSProp | dee      | 308.76   | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | dee      | 392.041  | 0.496     | 1000  | 1000 | Sin           |
| 3   | RMSProp | dee      | 970.431  | 0.0287    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | dee      | 767.993  | 3.4e+05   | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | dee      | 43.0     | 3.38e+05  | 1000  | 1000 | Relu          |
| 3   | RMSProp | dee      | 193.0    | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | dee      | 843.328  | 0.495     | 1000  | 1000 | Sin           |
| 4   | RMSProp | dee      | 742.202  | 0.0303    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | dee      | 724.999  | 3.47e+05  | 1000  | 1000 | SoftRelu      |

Table H.6: All RMSProp Results of regression problems (6/21).



| Run | Method  | Dataset   | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|-----------|----------|-----------|-------|------|---------------|
| 4   | RMSProp | dee       | 787.519  | 2.73e+05  | 1000  | 1000 | Relu          |
| 4   | RMSProp | dee       | 959.001  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | dee       | 164.0    | 0.501     | 1000  | 1000 | Sin           |
| 5   | RMSProp | dee       | 761.5    | 0.03      | 1000  | 1000 | Tanh          |
| 5   | RMSProp | dee       | 289.0    | 4.12e+05  | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | dee       | 513.215  | 3.76e+05  | 1000  | 1000 | Relu          |
| 5   | RMSProp | dee       | 111.158  | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | dee       | 244.006  | 0.499     | 1000  | 1000 | Sin           |
| 1   | RMSProp | delta_ail | 82.153   | 3.81      | 1000  | 1000 | Tanh          |
| 1   | RMSProp | delta_ail | 205.002  | 6.89e+05  | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | delta_ail | 171.0    | 3.5       | 1000  | 1000 | Relu          |
| 1   | RMSProp | delta_ail | 894.999  | 6.86e+05  | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | delta_ail | 50.001   | 0.391     | 1000  | 1000 | Sin           |
| 2   | RMSProp | delta_ail | 482.001  | 0.389     | 1000  | 1000 | Tanh          |
| 2   | RMSProp | delta_ail | 382.556  | 6.84e+05  | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | delta_ail | 821.504  | 3.45      | 1000  | 1000 | Relu          |
| 2   | RMSProp | delta_ail | 602.05   | 6.85e+05  | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | delta_ail | 576.525  | 0.405     | 1000  | 1000 | Sin           |
| 3   | RMSProp | delta_ail | 614.563  | 0.589     | 1000  | 1000 | Tanh          |
| 3   | RMSProp | delta_ail | 124.87   | 6.9e+05   | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | delta_ail | 931.518  | 3.49      | 1000  | 1000 | Relu          |
| 3   | RMSProp | delta_ail | 102.999  | 6.87e+05  | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | delta_ail | 598.044  | 0.571     | 1000  | 1000 | Sin           |
| 4   | RMSProp | delta_ail | 109.536  | 0.419     | 1000  | 1000 | Tanh          |
| 4   | RMSProp | delta_ail | 842.564  | 6.89e+05  | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | delta_ail | 592.24   | 3.53      | 1000  | 1000 | Relu          |
| 4   | RMSProp | delta_ail | 644.57   | 6.85e+05  | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | delta_ail | 611.002  | 1.08      | 1000  | 1000 | Sin           |
| 5   | RMSProp | delta_ail | 190.615  | 0.937     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | delta_ail | 268.164  | 6.93e+05  | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | delta_ail | 156.0    | 3.5       | 1000  | 1000 | Relu          |
| 5   | RMSProp | delta_ail | 741.1    | 6.85e+05  | 1000  | 1000 | Sigmoid       |

Table H.7: All RMSProp Results of regression problems (7/21).

| Run | Method  | Dataset   | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|-----------|----------|-----------|-------|------|---------------|
| 5   | RMSProp | delta_ail | 931.001  | 3.19      | 1000  | 1000 | Sin           |
| 1   | RMSProp | delta_elv | 59.09    | 1.72e+04  | 1000  | 1000 | Tanh          |
| 1   | RMSProp | delta_elv | 13.0     | 4.57e+04  | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | delta_elv | 751.073  | 1.35e+04  | 1000  | 1000 | Relu          |
| 1   | RMSProp | delta_elv | 425.0    | 1.17e+04  | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | delta_elv | 604.541  | 1.07e+04  | 1000  | 1000 | Sin           |
| 2   | RMSProp | delta_elv | 934.526  | 2.05e+04  | 1000  | 1000 | Tanh          |
| 2   | RMSProp | delta_elv | 528.037  | 3.76e+04  | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | delta_elv | 441.048  | 1.34e+04  | 1000  | 1000 | Relu          |
| 2   | RMSProp | delta_elv | 630.529  | 1.19e+04  | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | delta_elv | 109.0    | 9.7e+03   | 1000  | 1000 | Sin           |
| 3   | RMSProp | delta_elv | 13.157   | 1.24e+04  | 1000  | 1000 | Tanh          |
| 3   | RMSProp | delta_elv | 874.822  | 2.52e+04  | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | delta_elv | 741.586  | 1.32e+04  | 1000  | 1000 | Relu          |
| 3   | RMSProp | delta_elv | 834.056  | 1.23e+04  | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | delta_elv | 127.623  | 9.28e+03  | 1000  | 1000 | Sin           |
| 4   | RMSProp | delta_elv | 623.058  | 1.17e+04  | 1000  | 1000 | Tanh          |
| 4   | RMSProp | delta_elv | 79.817   | 1.88e+04  | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | delta_elv | 889.514  | 1.5e+04   | 1000  | 1000 | Relu          |
| 4   | RMSProp | delta_elv | 680.066  | 1.17e+04  | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | delta_elv | 700.0    | 2.29e+04  | 1000  | 1000 | Sin           |
| 5   | RMSProp | delta_elv | 661.511  | 1.56e+04  | 1000  | 1000 | Tanh          |
| 5   | RMSProp | delta_elv | 990.606  | 3.35e+04  | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | delta_elv | 862.158  | 1.53e+04  | 1000  | 1000 | Relu          |
| 5   | RMSProp | delta_elv | 692.632  | 1.18e+04  | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | delta_elv | 606.999  | 1.36e+04  | 1000  | 1000 | Sin           |
| 1   | RMSProp | diabetes  | 422.958  | 0.0128    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | diabetes  | 564.987  | 0.0143    | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | diabetes  | 571.997  | 0.0146    | 1000  | 1000 | Relu          |
| 1   | RMSProp | diabetes  | 504.697  | 0.0143    | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | diabetes  | 602.999  | 0.0113    | 1000  | 1000 | Sin           |
| 2   | RMSProp | diabetes  | 468.984  | 0.0127    | 1000  | 1000 | Tanh          |

Table H.8: All RMSProp Results of regression problems (8/21).

| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 2   | RMSProp | diabetes | 741.011  | 0.0146    | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | diabetes | 499.042  | 0.0143    | 1000  | 1000 | Relu          |
| 2   | RMSProp | diabetes | 610.09   | 0.0145    | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | diabetes | 733.333  | 0.0128    | 1000  | 1000 | Sin           |
| 3   | RMSProp | diabetes | 510.068  | 0.0129    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | diabetes | 660.24   | 0.0148    | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | diabetes | 540.423  | 0.0143    | 1000  | 1000 | Relu          |
| 3   | RMSProp | diabetes | 673.195  | 0.0142    | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | diabetes | 698.86   | 0.0129    | 1000  | 1000 | Sin           |
| 4   | RMSProp | diabetes | 435.12   | 0.0126    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | diabetes | 901.356  | 0.0152    | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | diabetes | 523.864  | 0.0148    | 1000  | 1000 | Relu          |
| 4   | RMSProp | diabetes | 487.999  | 0.0142    | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | diabetes | 542.0    | 0.0131    | 1000  | 1000 | Sin           |
| 5   | RMSProp | diabetes | 394.081  | 0.013     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | diabetes | 682.129  | 0.0147    | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | diabetes | 440.968  | 0.0146    | 1000  | 1000 | Relu          |
| 5   | RMSProp | diabetes | 470.983  | 0.0145    | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | diabetes | 583.994  | 0.0131    | 1000  | 1000 | Sin           |
| 1   | RMSProp | ele-1    | 660.001  | 0.416     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | ele-1    | 268.256  | 0.0865    | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | ele-1    | 27.913   | 0.0888    | 1000  | 1000 | Relu          |
| 1   | RMSProp | ele-1    | 980.01   | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | ele-1    | 375.017  | 0.889     | 1000  | 1000 | Sin           |
| 2   | RMSProp | ele-1    | 843.0    | 0.416     | 1000  | 1000 | Tanh          |
| 2   | RMSProp | ele-1    | 396.144  | 0.0865    | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | ele-1    | 234.904  | 0.0889    | 1000  | 1000 | Relu          |
| 2   | RMSProp | ele-1    | 875.799  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | ele-1    | 498.121  | 0.888     | 1000  | 1000 | Sin           |
| 3   | RMSProp | ele-1    | 935.763  | 0.417     | 1000  | 1000 | Tanh          |
| 3   | RMSProp | ele-1    | 817.956  | 0.0866    | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | ele-1    | 246.132  | 0.0888    | 1000  | 1000 | Relu          |

Table H.9: All RMSProp Results of regression problems (9/21).

| Run | Method  | Dataset | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|---------|----------|-----------|-------|------|---------------|
| 3   | RMSProp | ele-1   | 119.097  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | ele-1   | 941.008  | 0.887     | 1000  | 1000 | Sin           |
| 4   | RMSProp | ele-1   | 504.999  | 0.416     | 1000  | 1000 | Tanh          |
| 4   | RMSProp | ele-1   | 646.824  | 0.0867    | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | ele-1   | 398.977  | 0.0888    | 1000  | 1000 | Relu          |
| 4   | RMSProp | ele-1   | 582.001  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | ele-1   | 279.999  | 0.888     | 1000  | 1000 | Sin           |
| 5   | RMSProp | ele-1   | 687.072  | 0.417     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | ele-1   | 810.341  | 0.0865    | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | ele-1   | 61.982   | 0.0889    | 1000  | 1000 | Relu          |
| 5   | RMSProp | ele-1   | 585.922  | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | ele-1   | 544.37   | 0.881     | 1000  | 1000 | Sin           |
| 1   | RMSProp | ele-2   | 127.519  | 0.575     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | ele-2   | 446.062  | 0.00421   | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | ele-2   | 495.46   | 0.00409   | 1000  | 1000 | Relu          |
| 1   | RMSProp | ele-2   | 976.03   | 0.586     | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | ele-2   | 170.312  | 0.64      | 1000  | 1000 | Sin           |
| 2   | RMSProp | ele-2   | 128.002  | 0.575     | 1000  | 1000 | Tanh          |
| 2   | RMSProp | ele-2   | 935.523  | 0.00421   | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | ele-2   | 522.761  | 0.00405   | 1000  | 1000 | Relu          |
| 2   | RMSProp | ele-2   | 2.517    | 0.586     | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | ele-2   | 440.01   | 0.647     | 1000  | 1000 | Sin           |
| 3   | RMSProp | ele-2   | 361.084  | 0.575     | 1000  | 1000 | Tanh          |
| 3   | RMSProp | ele-2   | 959.227  | 0.00421   | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | ele-2   | 593.238  | 0.00407   | 1000  | 1000 | Relu          |
| 3   | RMSProp | ele-2   | 487.398  | 0.586     | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | ele-2   | 406.999  | 0.636     | 1000  | 1000 | Sin           |
| 4   | RMSProp | ele-2   | 813.958  | 0.575     | 1000  | 1000 | Tanh          |
| 4   | RMSProp | ele-2   | 191.408  | 0.0042    | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | ele-2   | 120.025  | 0.00409   | 1000  | 1000 | Relu          |
| 4   | RMSProp | ele-2   | 771.0    | 0.587     | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | ele-2   | 981.033  | 0.642     | 1000  | 1000 | Sin           |

Table H.10: All RMSProp Results of regression problems (10/21).

| Run | Method  | Dataset     | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|-------------|----------|-----------|-------|------|---------------|
| 5   | RMSProp | ele-2       | 151.035  | 0.574     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | ele-2       | 774.075  | 0.00421   | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | ele-2       | 584.522  | 0.00406   | 1000  | 1000 | Relu          |
| 5   | RMSProp | ele-2       | 236.579  | 0.587     | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | ele-2       | 815.209  | 0.643     | 1000  | 1000 | Sin           |
| 1   | RMSProp | forestFires | 863.075  | 0.867     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | forestFires | 500.986  | 0.926     | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | forestFires | 247.001  | 0.925     | 1000  | 1000 | Relu          |
| 1   | RMSProp | forestFires | 212.0    | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | forestFires | 787.991  | 0.416     | 1000  | 1000 | Sin           |
| 2   | RMSProp | forestFires | 129.364  | 0.865     | 1000  | 1000 | Tanh          |
| 2   | RMSProp | forestFires | 659.001  | 0.924     | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | forestFires | 588.435  | 0.922     | 1000  | 1000 | Relu          |
| 2   | RMSProp | forestFires | 183.002  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | forestFires | 914.131  | 0.461     | 1000  | 1000 | Sin           |
| 3   | RMSProp | forestFires | 303.029  | 0.867     | 1000  | 1000 | Tanh          |
| 3   | RMSProp | forestFires | 8.025    | 0.918     | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | forestFires | 464.001  | 0.918     | 1000  | 1000 | Relu          |
| 3   | RMSProp | forestFires | 756.878  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | forestFires | 569.094  | 0.464     | 1000  | 1000 | Sin           |
| 4   | RMSProp | forestFires | 346.547  | 0.864     | 1000  | 1000 | Tanh          |
| 4   | RMSProp | forestFires | 87.0     | 0.924     | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | forestFires | 853.995  | 0.926     | 1000  | 1000 | Relu          |
| 4   | RMSProp | forestFires | 220.0    | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | forestFires | 522.0    | 0.47      | 1000  | 1000 | Sin           |
| 5   | RMSProp | forestFires | 850.008  | 0.865     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | forestFires | 82.893   | 0.923     | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | forestFires | 248.069  | 0.924     | 1000  | 1000 | Relu          |
| 5   | RMSProp | forestFires | 801.338  | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | forestFires | 697.166  | 0.511     | 1000  | 1000 | Sin           |
| 1   | RMSProp | friedman    | 581.002  | 0.0303    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | friedman    | 486.306  | 0.0307    | 1000  | 1000 | SoftRelu      |

Table H.11: All RMSProp Results of regression problems (11/21).

| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 1   | RMSProp | friedman | 676.135  | 0.0126    | 1000  | 1000 | Relu          |
| 1   | RMSProp | friedman | 648.521  | 0.0304    | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | friedman | 600.356  | 0.0304    | 1000  | 1000 | Sin           |
| 2   | RMSProp | friedman | 479.452  | 0.0303    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | friedman | 775.07   | 0.0307    | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | friedman | 226.109  | 0.0115    | 1000  | 1000 | Relu          |
| 2   | RMSProp | friedman | 556.516  | 0.0304    | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | friedman | 484.085  | 0.0304    | 1000  | 1000 | Sin           |
| 3   | RMSProp | friedman | 572.067  | 0.0303    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | friedman | 349.365  | 0.0307    | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | friedman | 177.822  | 0.0127    | 1000  | 1000 | Relu          |
| 3   | RMSProp | friedman | 59.0     | 0.0304    | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | friedman | 627.979  | 0.0304    | 1000  | 1000 | Sin           |
| 4   | RMSProp | friedman | 992.441  | 0.0303    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | friedman | 771.52   | 0.0307    | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | friedman | 221.001  | 0.0122    | 1000  | 1000 | Relu          |
| 4   | RMSProp | friedman | 710.001  | 0.0304    | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | friedman | 370.028  | 0.0304    | 1000  | 1000 | Sin           |
| 5   | RMSProp | friedman | 590.501  | 0.0303    | 1000  | 1000 | Tanh          |
| 5   | RMSProp | friedman | 702.551  | 0.0307    | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | friedman | 295.198  | 0.0155    | 1000  | 1000 | Relu          |
| 5   | RMSProp | friedman | 509.934  | 0.0304    | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | friedman | 552.103  | 0.0304    | 1000  | 1000 | Sin           |
| 1   | RMSProp | laser    | 55.0     | 0.005     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | laser    | 736.21   | 0.0135    | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | laser    | 990.539  | 0.013     | 1000  | 1000 | Relu          |
| 1   | RMSProp | laser    | 551.057  | 0.00531   | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | laser    | 974.772  | 0.0117    | 1000  | 1000 | Sin           |
| 2   | RMSProp | laser    | 887.042  | 0.00503   | 1000  | 1000 | Tanh          |
| 2   | RMSProp | laser    | 253.002  | 0.0138    | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | laser    | 341.295  | 0.013     | 1000  | 1000 | Relu          |
| 2   | RMSProp | laser    | 481.005  | 0.00539   | 1000  | 1000 | Sigmoid       |

Table H.12: All RMSProp Results of regression problems (12/21).

| Run | Method  | Dataset    | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|------------|----------|-----------|-------|------|---------------|
| 2   | RMSProp | laser      | 868.0    | 0.009     | 1000  | 1000 | Sin           |
| 3   | RMSProp | laser      | 931.003  | 0.00501   | 1000  | 1000 | Tanh          |
| 3   | RMSProp | laser      | 706.259  | 0.0139    | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | laser      | 321.406  | 0.0134    | 1000  | 1000 | Relu          |
| 3   | RMSProp | laser      | 177.815  | 0.00548   | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | laser      | 948.479  | 0.00824   | 1000  | 1000 | Sin           |
| 4   | RMSProp | laser      | 478.845  | 0.0051    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | laser      | 464.325  | 0.0138    | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | laser      | 553.009  | 0.0131    | 1000  | 1000 | Relu          |
| 4   | RMSProp | laser      | 422.511  | 0.00541   | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | laser      | 196.736  | 0.00987   | 1000  | 1000 | Sin           |
| 5   | RMSProp | laser      | 985.011  | 0.00503   | 1000  | 1000 | Tanh          |
| 5   | RMSProp | laser      | 74.561   | 0.0134    | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | laser      | 330.552  | 0.0128    | 1000  | 1000 | Relu          |
| 5   | RMSProp | laser      | 476.56   | 0.00538   | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | laser      | 518.11   | 0.00917   | 1000  | 1000 | Sin           |
| 1   | RMSProp | machineCPU | 692.984  | 0.573     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | machineCPU | 200.31   | 0.858     | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | machineCPU | 851.675  | 0.886     | 1000  | 1000 | Relu          |
| 1   | RMSProp | machineCPU | 925.004  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | machineCPU | 868.305  | 0.995     | 1000  | 1000 | Sin           |
| 2   | RMSProp | machineCPU | 730.506  | 0.579     | 1000  | 1000 | Tanh          |
| 2   | RMSProp | machineCPU | 435.998  | 0.873     | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | machineCPU | 902.316  | 0.679     | 1000  | 1000 | Relu          |
| 2   | RMSProp | machineCPU | 993.275  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | machineCPU | 823.966  | 0.994     | 1000  | 1000 | Sin           |
| 3   | RMSProp | machineCPU | 702.0    | 0.575     | 1000  | 1000 | Tanh          |
| 3   | RMSProp | machineCPU | 27.735   | 0.743     | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | machineCPU | 980.794  | 0.705     | 1000  | 1000 | Relu          |
| 3   | RMSProp | machineCPU | 211.224  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | machineCPU | 977.31   | 0.993     | 1000  | 1000 | Sin           |
| 4   | RMSProp | machineCPU | 825.245  | 0.557     | 1000  | 1000 | Tanh          |

Table H.13: All RMSProp Results of regression problems (13/21).

| Run | Method  | Dataset    | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|------------|----------|-----------|-------|------|---------------|
| 4   | RMSProp | machineCPU | 411.0    | 0.91      | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | machineCPU | 346.962  | 0.882     | 1000  | 1000 | Relu          |
| 4   | RMSProp | machineCPU | 254.031  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | machineCPU | 59.999   | 0.995     | 1000  | 1000 | Sin           |
| 5   | RMSProp | machineCPU | 727.998  | 0.58      | 1000  | 1000 | Tanh          |
| 5   | RMSProp | machineCPU | 362.581  | 0.886     | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | machineCPU | 940.0    | 0.894     | 1000  | 1000 | Relu          |
| 5   | RMSProp | machineCPU | 922.11   | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | machineCPU | 781.007  | 0.993     | 1000  | 1000 | Sin           |
| 1   | RMSProp | mortgage   | 204.351  | 0.0392    | 1000  | 1000 | Tanh          |
| 1   | RMSProp | mortgage   | 426.001  | 10.5      | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | mortgage   | 413.526  | 10.5      | 1000  | 1000 | Relu          |
| 1   | RMSProp | mortgage   | 979.516  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | mortgage   | 176.051  | 0.775     | 1000  | 1000 | Sin           |
| 2   | RMSProp | mortgage   | 210.114  | 0.0198    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | mortgage   | 875.054  | 11.7      | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | mortgage   | 699.085  | 13.8      | 1000  | 1000 | Relu          |
| 2   | RMSProp | mortgage   | 735.0    | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | mortgage   | 984.002  | 0.795     | 1000  | 1000 | Sin           |
| 3   | RMSProp | mortgage   | 247.081  | 0.0267    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | mortgage   | 427.406  | 10.4      | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | mortgage   | 688.184  | 8.17      | 1000  | 1000 | Relu          |
| 3   | RMSProp | mortgage   | 230.057  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | mortgage   | 915.107  | 0.779     | 1000  | 1000 | Sin           |
| 4   | RMSProp | mortgage   | 549.79   | 0.0121    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | mortgage   | 532.066  | 13        | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | mortgage   | 919.818  | 11.6      | 1000  | 1000 | Relu          |
| 4   | RMSProp | mortgage   | 677.001  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | mortgage   | 90.394   | 0.786     | 1000  | 1000 | Sin           |
| 5   | RMSProp | mortgage   | 254.001  | 0.0236    | 1000  | 1000 | Tanh          |
| 5   | RMSProp | mortgage   | 633.353  | 9.08      | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | mortgage   | 472.951  | 8.74      | 1000  | 1000 | Relu          |

Table H.14: All RMSProp Results of regression problems (14/21).



| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 5   | RMSProp | mortgage | 964.458  | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | mortgage | 774.17   | 0.794     | 1000  | 1000 | Sin           |
| 1   | RMSProp | plastic  | 683.623  | 0.022     | 1000  | 1000 | Tanh          |
| 1   | RMSProp | plastic  | 778.535  | 0.0452    | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | plastic  | 403.006  | 0.0419    | 1000  | 1000 | Relu          |
| 1   | RMSProp | plastic  | 339.041  | 0.018     | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | plastic  | 815.003  | 0.0134    | 1000  | 1000 | Sin           |
| 2   | RMSProp | plastic  | 770.536  | 0.0236    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | plastic  | 497.042  | 0.0473    | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | plastic  | 18.45    | 0.0441    | 1000  | 1000 | Relu          |
| 2   | RMSProp | plastic  | 871.033  | 0.017     | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | plastic  | 102.003  | 0.0274    | 1000  | 1000 | Sin           |
| 3   | RMSProp | plastic  | 301.092  | 0.0219    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | plastic  | 0.326    | 0.0481    | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | plastic  | 933.635  | 0.0453    | 1000  | 1000 | Relu          |
| 3   | RMSProp | plastic  | 319.001  | 0.0181    | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | plastic  | 814.015  | 0.0104    | 1000  | 1000 | Sin           |
| 4   | RMSProp | plastic  | 1.556    | 0.0234    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | plastic  | 829.36   | 0.0472    | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | plastic  | 59.073   | 0.0457    | 1000  | 1000 | Relu          |
| 4   | RMSProp | plastic  | 664.0    | 0.0183    | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | plastic  | 766.001  | 0.0109    | 1000  | 1000 | Sin           |
| 5   | RMSProp | plastic  | 37.182   | 0.022     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | plastic  | 750.616  | 0.0456    | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | plastic  | 646.624  | 0.0425    | 1000  | 1000 | Relu          |
| 5   | RMSProp | plastic  | 780.537  | 0.0181    | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | plastic  | 917.302  | 0.0144    | 1000  | 1000 | Sin           |
| 1   | RMSProp | puma32h  | 912.058  | 113       | 1000  | 1000 | Tanh          |
| 1   | RMSProp | puma32h  | 783.179  | 1.15e+03  | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | puma32h  | 39.129   | 947       | 1000  | 1000 | Relu          |
| 1   | RMSProp | puma32h  | 135.415  | 67.7      | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | puma32h  | 144.098  | 0.262     | 1000  | 1000 | Sin           |

Table H.15: All RMSProp Results of regression problems (15/21).

| Run | Method  | Dataset | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|---------|----------|-----------|-------|------|---------------|
| 2   | RMSProp | puma32h | 877.262  | 47.4      | 1000  | 1000 | Tanh          |
| 2   | RMSProp | puma32h | 79.583   | 992       | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | puma32h | 759.638  | 911       | 1000  | 1000 | Relu          |
| 2   | RMSProp | puma32h | 763.051  | 70.6      | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | puma32h | 41.575   | 0.25      | 1000  | 1000 | Sin           |
| 3   | RMSProp | puma32h | 969.343  | 70        | 1000  | 1000 | Tanh          |
| 3   | RMSProp | puma32h | 485.544  | 897       | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | puma32h | 463.638  | 784       | 1000  | 1000 | Relu          |
| 3   | RMSProp | puma32h | 768.101  | 77.9      | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | puma32h | 0.066    | 0.24      | 1000  | 1000 | Sin           |
| 4   | RMSProp | puma32h | 435.638  | 58.2      | 1000  | 1000 | Tanh          |
| 4   | RMSProp | puma32h | 138.513  | 977       | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | puma32h | 555.211  | 957       | 1000  | 1000 | Relu          |
| 4   | RMSProp | puma32h | 946.56   | 80.2      | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | puma32h | 298.046  | 0.285     | 1000  | 1000 | Sin           |
| 5   | RMSProp | puma32h | 11.047   | 86.4      | 1000  | 1000 | Tanh          |
| 5   | RMSProp | puma32h | 105.518  | 1.12e+03  | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | puma32h | 887.163  | 990       | 1000  | 1000 | Relu          |
| 5   | RMSProp | puma32h | 924.076  | 75.4      | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | puma32h | 936.999  | 0.221     | 1000  | 1000 | Sin           |
| 1   | RMSProp | quake   | 41.023   | 0.00586   | 1000  | 1000 | Tanh          |
| 1   | RMSProp | quake   | 803.229  | 0.0777    | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | quake   | 275.002  | 0.108     | 1000  | 1000 | Relu          |
| 1   | RMSProp | quake   | 330.002  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | quake   | 854.157  | 0.01      | 1000  | 1000 | Sin           |
| 2   | RMSProp | quake   | 501.108  | 0.00539   | 1000  | 1000 | Tanh          |
| 2   | RMSProp | quake   | 135.679  | 0.108     | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | quake   | 831.875  | 0.162     | 1000  | 1000 | Relu          |
| 2   | RMSProp | quake   | 743.042  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | quake   | 959.001  | 0.0151    | 1000  | 1000 | Sin           |
| 3   | RMSProp | quake   | 304.972  | 0.00636   | 1000  | 1000 | Tanh          |
| 3   | RMSProp | quake   | 553.04   | 0.0792    | 1000  | 1000 | SoftRelu      |

Table H.16: All RMSProp Results of regression problems (16/21).

| Run | Method  | Dataset | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|---------|----------|-----------|-------|------|---------------|
| 3   | RMSProp | quake   | 860.001  | 0.136     | 1000  | 1000 | Relu          |
| 3   | RMSProp | quake   | 190.052  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | quake   | 907.96   | 0.0118    | 1000  | 1000 | Sin           |
| 4   | RMSProp | quake   | 362.904  | 0.00596   | 1000  | 1000 | Tanh          |
| 4   | RMSProp | quake   | 860.999  | 0.068     | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | quake   | 772.907  | 0.104     | 1000  | 1000 | Relu          |
| 4   | RMSProp | quake   | 449.002  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | quake   | 359.075  | 0.0126    | 1000  | 1000 | Sin           |
| 5   | RMSProp | quake   | 503.361  | 0.00568   | 1000  | 1000 | Tanh          |
| 5   | RMSProp | quake   | 764.69   | 0.0873    | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | quake   | 920.0    | 0.108     | 1000  | 1000 | Relu          |
| 5   | RMSProp | quake   | 844.555  | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | quake   | 519.243  | 0.00721   | 1000  | 1000 | Sin           |
| 1   | RMSProp | stock   | 816.009  | 0.00204   | 1000  | 1000 | Tanh          |
| 1   | RMSProp | stock   | 610.938  | 0.0041    | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | stock   | 904.063  | 0.00378   | 1000  | 1000 | Relu          |
| 1   | RMSProp | stock   | 481.002  | 0.00295   | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | stock   | 771.093  | 0.00145   | 1000  | 1000 | Sin           |
| 2   | RMSProp | stock   | 902.271  | 0.00212   | 1000  | 1000 | Tanh          |
| 2   | RMSProp | stock   | 779.346  | 0.00387   | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | stock   | 248.091  | 0.00377   | 1000  | 1000 | Relu          |
| 2   | RMSProp | stock   | 164.002  | 0.0029    | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | stock   | 687.0    | 0.000691  | 1000  | 1000 | Sin           |
| 3   | RMSProp | stock   | 357.353  | 0.00216   | 1000  | 1000 | Tanh          |
| 3   | RMSProp | stock   | 111.262  | 0.00408   | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | stock   | 162.0    | 0.004     | 1000  | 1000 | Relu          |
| 3   | RMSProp | stock   | 274.516  | 0.00293   | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | stock   | 241.763  | 0.00151   | 1000  | 1000 | Sin           |
| 4   | RMSProp | stock   | 810.01   | 0.00209   | 1000  | 1000 | Tanh          |
| 4   | RMSProp | stock   | 559.001  | 0.00429   | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | stock   | 849.529  | 0.00401   | 1000  | 1000 | Relu          |
| 4   | RMSProp | stock   | 773.07   | 0.00285   | 1000  | 1000 | Sigmoid       |

Table H.17: All RMSProp Results of regression problems (17/21).

| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 4   | RMSProp | stock    | 529.993  | 0.00124   | 1000  | 1000 | Sin           |
| 5   | RMSProp | stock    | 598.0    | 0.00212   | 1000  | 1000 | Tanh          |
| 5   | RMSProp | stock    | 662.045  | 0.00397   | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | stock    | 218.003  | 0.00377   | 1000  | 1000 | Relu          |
| 5   | RMSProp | stock    | 409.466  | 0.00286   | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | stock    | 311.976  | 0.00127   | 1000  | 1000 | Sin           |
| 1   | RMSProp | tic      | 266.567  | 2.5       | 1000  | 1000 | Tanh          |
| 1   | RMSProp | tic      | 336.622  | 0.944     | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | tic      | 991.001  | 0.701     | 1000  | 1000 | Relu          |
| 1   | RMSProp | tic      | 956.001  | 1.3       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | tic      | 499.0    | 3.31      | 1000  | 1000 | Sin           |
| 2   | RMSProp | tic      | 62.612   | 1.54      | 1000  | 1000 | Tanh          |
| 2   | RMSProp | tic      | 895.845  | 0.928     | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | tic      | 56.518   | 0.72      | 1000  | 1000 | Relu          |
| 2   | RMSProp | tic      | 630.002  | 1.36      | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | tic      | 388.511  | 1.07      | 1000  | 1000 | Sin           |
| 3   | RMSProp | tic      | 186.001  | 2.73      | 1000  | 1000 | Tanh          |
| 3   | RMSProp | tic      | 14.815   | 0.955     | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | tic      | 73.094   | 0.667     | 1000  | 1000 | Relu          |
| 3   | RMSProp | tic      | 428.593  | 1.37      | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | tic      | 897.13   | 2.91      | 1000  | 1000 | Sin           |
| 4   | RMSProp | tic      | 786.655  | 5.64      | 1000  | 1000 | Tanh          |
| 4   | RMSProp | tic      | 536.075  | 0.975     | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | tic      | 44.115   | 0.69      | 1000  | 1000 | Relu          |
| 4   | RMSProp | tic      | 900.559  | 1.37      | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | tic      | 50.059   | 0.763     | 1000  | 1000 | Sin           |
| 5   | RMSProp | tic      | 843.0    | 1.95      | 1000  | 1000 | Tanh          |
| 5   | RMSProp | tic      | 688.0    | 0.936     | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | tic      | 346.848  | 0.639     | 1000  | 1000 | Relu          |
| 5   | RMSProp | tic      | 400.089  | 1.32      | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | tic      | 399.0    | 2.59      | 1000  | 1000 | Sin           |
| 1   | RMSProp | treasury | 190.424  | 0.0236    | 1000  | 1000 | Tanh          |

Table H.18: All RMSProp Results of regression problems (18/21).

| Run | Method  | Dataset  | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|----------|----------|-----------|-------|------|---------------|
| 1   | RMSProp | treasury | 629.408  | 11        | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | treasury | 881.363  | 8.05      | 1000  | 1000 | Relu          |
| 1   | RMSProp | treasury | 827.063  | nan       | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | treasury | 982.101  | 0.789     | 1000  | 1000 | Sin           |
| 2   | RMSProp | treasury | 272.207  | 0.0122    | 1000  | 1000 | Tanh          |
| 2   | RMSProp | treasury | 877.519  | 8.42      | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | treasury | 618.04   | 10.4      | 1000  | 1000 | Relu          |
| 2   | RMSProp | treasury | 286.999  | nan       | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | treasury | 2.92     | 0.805     | 1000  | 1000 | Sin           |
| 3   | RMSProp | treasury | 220.354  | 0.0437    | 1000  | 1000 | Tanh          |
| 3   | RMSProp | treasury | 693.255  | 12.6      | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | treasury | 725.443  | 10.5      | 1000  | 1000 | Relu          |
| 3   | RMSProp | treasury | 879.926  | nan       | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | treasury | 655.001  | 0.804     | 1000  | 1000 | Sin           |
| 4   | RMSProp | treasury | 282.306  | 0.0305    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | treasury | 536.199  | 13.2      | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | treasury | 334.248  | 15.9      | 1000  | 1000 | Relu          |
| 4   | RMSProp | treasury | 359.059  | nan       | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | treasury | 901.001  | 0.795     | 1000  | 1000 | Sin           |
| 5   | RMSProp | treasury | 895.01   | 0.021     | 1000  | 1000 | Tanh          |
| 5   | RMSProp | treasury | 606.001  | 14.1      | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | treasury | 699.003  | 10.4      | 1000  | 1000 | Relu          |
| 5   | RMSProp | treasury | 346.82   | nan       | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | treasury | 632.501  | 0.787     | 1000  | 1000 | Sin           |
| 1   | RMSProp | wankara  | 566.225  | 0.00171   | 1000  | 1000 | Tanh          |
| 1   | RMSProp | wankara  | 660.005  | 0.00182   | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | wankara  | 832.006  | 0.00189   | 1000  | 1000 | Relu          |
| 1   | RMSProp | wankara  | 437.223  | 0.00141   | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | wankara  | 573.598  | 0.000945  | 1000  | 1000 | Sin           |
| 2   | RMSProp | wankara  | 551.132  | 0.00169   | 1000  | 1000 | Tanh          |
| 2   | RMSProp | wankara  | 656.522  | 0.00178   | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | wankara  | 716.087  | 0.00178   | 1000  | 1000 | Relu          |

Table H.19: All RMSProp Results of regression problems (19/21).

| Run | Method  | Dataset | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|---------|----------|-----------|-------|------|---------------|
| 2   | RMSProp | wankara | 27.611   | 0.00142   | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | wankara | 99.467   | 0.00104   | 1000  | 1000 | Sin           |
| 3   | RMSProp | wankara | 977.243  | 0.00169   | 1000  | 1000 | Tanh          |
| 3   | RMSProp | wankara | 919.647  | 0.00183   | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | wankara | 830.425  | 0.00184   | 1000  | 1000 | Relu          |
| 3   | RMSProp | wankara | 793.516  | 0.00138   | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | wankara | 32.0     | 0.00294   | 1000  | 1000 | Sin           |
| 4   | RMSProp | wankara | 190.461  | 0.0017    | 1000  | 1000 | Tanh          |
| 4   | RMSProp | wankara | 567.2    | 0.00179   | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | wankara | 173.102  | 0.00177   | 1000  | 1000 | Relu          |
| 4   | RMSProp | wankara | 790.58   | 0.00144   | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | wankara | 462.001  | 0.00234   | 1000  | 1000 | Sin           |
| 5   | RMSProp | wankara | 718.181  | 0.00172   | 1000  | 1000 | Tanh          |
| 5   | RMSProp | wankara | 626.631  | 0.00189   | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | wankara | 201.074  | 0.00195   | 1000  | 1000 | Relu          |
| 5   | RMSProp | wankara | 41.161   | 0.0014    | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | wankara | 675.201  | 0.00205   | 1000  | 1000 | Sin           |
| 1   | RMSProp | wizmir  | 207.009  | 0.00153   | 1000  | 1000 | Tanh          |
| 1   | RMSProp | wizmir  | 506.215  | 0.00135   | 1000  | 1000 | SoftRelu      |
| 1   | RMSProp | wizmir  | 662.242  | 0.00144   | 1000  | 1000 | Relu          |
| 1   | RMSProp | wizmir  | 273.0    | 0.00138   | 1000  | 1000 | Sigmoid       |
| 1   | RMSProp | wizmir  | 125.369  | 0.00173   | 1000  | 1000 | Sin           |
| 2   | RMSProp | wizmir  | 232.503  | 0.00157   | 1000  | 1000 | Tanh          |
| 2   | RMSProp | wizmir  | 571.636  | 0.00144   | 1000  | 1000 | SoftRelu      |
| 2   | RMSProp | wizmir  | 178.217  | 0.00143   | 1000  | 1000 | Relu          |
| 2   | RMSProp | wizmir  | 328.552  | 0.00142   | 1000  | 1000 | Sigmoid       |
| 2   | RMSProp | wizmir  | 469.097  | 0.00147   | 1000  | 1000 | Sin           |
| 3   | RMSProp | wizmir  | 432.191  | 0.00159   | 1000  | 1000 | Tanh          |
| 3   | RMSProp | wizmir  | 894.043  | 0.00143   | 1000  | 1000 | SoftRelu      |
| 3   | RMSProp | wizmir  | 307.12   | 0.00149   | 1000  | 1000 | Relu          |
| 3   | RMSProp | wizmir  | 4.002    | 0.00142   | 1000  | 1000 | Sigmoid       |
| 3   | RMSProp | wizmir  | 423.102  | 0.002     | 1000  | 1000 | Sin           |

Table H.20: All RMSProp Results of regression problems (20/21).

| Run | Method  | Dataset | Time (s) | Norm Loss | $n_e$ | $k$  | $\phi(\cdot)$ |
|-----|---------|---------|----------|-----------|-------|------|---------------|
| 4   | RMSProp | wizmir  | 424.139  | 0.00164   | 1000  | 1000 | Tanh          |
| 4   | RMSProp | wizmir  | 427.61   | 0.00146   | 1000  | 1000 | SoftRelu      |
| 4   | RMSProp | wizmir  | 521.001  | 0.0015    | 1000  | 1000 | Relu          |
| 4   | RMSProp | wizmir  | 983.002  | 0.00138   | 1000  | 1000 | Sigmoid       |
| 4   | RMSProp | wizmir  | 312.0    | 0.0013    | 1000  | 1000 | Sin           |
| 5   | RMSProp | wizmir  | 182.598  | 0.00161   | 1000  | 1000 | Tanh          |
| 5   | RMSProp | wizmir  | 481.081  | 0.00146   | 1000  | 1000 | SoftRelu      |
| 5   | RMSProp | wizmir  | 392.288  | 0.00139   | 1000  | 1000 | Relu          |
| 5   | RMSProp | wizmir  | 289.219  | 0.00133   | 1000  | 1000 | Sigmoid       |
| 5   | RMSProp | wizmir  | 948.89   | 0.00129   | 1000  | 1000 | Sin           |

Table H.21: All RMSProp Results of regression problems (21/21).

## Appendix I

### CSEEM Classification All Results



| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | appendicitis | 9.001    | 0.943    | 8     | 25  | Tanh          | ClipRound       |
| 1   | CSEEM  | appendicitis | 18.999   | 0.934    | 16    | 30  | Tanh          | ClipRound       |
| 1   | CSEEM  | appendicitis | 42.001   | 0.915    | 32    | 21  | Tanh          | ClipRound       |
| 1   | CSEEM  | appendicitis | 7.0      | 0.915    | 8     | 15  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | appendicitis | 22.992   | 0.915    | 16    | 16  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | appendicitis | 53.998   | 0.925    | 32    | 23  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | appendicitis | 8.0      | 0.934    | 8     | 22  | Relu          | ClipRound       |
| 1   | CSEEM  | appendicitis | 18.986   | 0.934    | 16    | 31  | Relu          | ClipRound       |
| 1   | CSEEM  | appendicitis | 50.001   | 0.934    | 32    | 27  | Relu          | ClipRound       |
| 1   | CSEEM  | appendicitis | 14.999   | 0.925    | 8     | 28  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | appendicitis | 18.987   | 0.915    | 16    | 24  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | appendicitis | 46.999   | 0.943    | 32    | 28  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | appendicitis | 14.001   | 0.925    | 8     | 22  | Sin           | ClipRound       |
| 1   | CSEEM  | appendicitis | 14.995   | 0.925    | 16    | 28  | Sin           | ClipRound       |
| 1   | CSEEM  | appendicitis | 74.0     | 0.925    | 32    | 31  | Sin           | ClipRound       |
| 2   | CSEEM  | appendicitis | 7.0      | 0.906    | 8     | 30  | Tanh          | ClipRound       |
| 2   | CSEEM  | appendicitis | 41.998   | 0.962    | 16    | 37  | Tanh          | ClipRound       |
| 2   | CSEEM  | appendicitis | 48.0     | 0.915    | 32    | 18  | Tanh          | ClipRound       |
| 2   | CSEEM  | appendicitis | 5.999    | 0.925    | 8     | 17  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | appendicitis | 12.998   | 0.915    | 16    | 26  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | appendicitis | 46.999   | 0.925    | 32    | 20  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | appendicitis | 7.999    | 0.906    | 8     | 24  | Relu          | ClipRound       |
| 2   | CSEEM  | appendicitis | 22.007   | 0.934    | 16    | 25  | Relu          | ClipRound       |
| 2   | CSEEM  | appendicitis | 80.0     | 0.925    | 32    | 15  | Relu          | ClipRound       |
| 2   | CSEEM  | appendicitis | 12.997   | 0.906    | 8     | 18  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | appendicitis | 48.061   | 0.925    | 16    | 19  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | appendicitis | 67.999   | 0.925    | 32    | 26  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | appendicitis | 12.0     | 0.896    | 8     | 29  | Sin           | ClipRound       |
| 2   | CSEEM  | appendicitis | 14.993   | 0.906    | 16    | 4   | Sin           | ClipRound       |
| 2   | CSEEM  | appendicitis | 68.0     | 0.925    | 32    | 26  | Sin           | ClipRound       |
| 3   | CSEEM  | appendicitis | 10.001   | 0.915    | 8     | 20  | Tanh          | ClipRound       |
| 3   | CSEEM  | appendicitis | 22.996   | 0.934    | 16    | 30  | Tanh          | ClipRound       |

Table I.1: All CSEEM Results of classification problems (1/83).

| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | appendicitis | 32.999   | 0.943    | 32    | 30  | Tanh          | ClipRound       |
| 3   | CSEEM  | appendicitis | 18.001   | 0.925    | 8     | 17  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | appendicitis | 18.996   | 0.934    | 16    | 19  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | appendicitis | 49.999   | 0.934    | 32    | 29  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | appendicitis | 6.0      | 0.934    | 8     | 29  | Relu          | ClipRound       |
| 3   | CSEEM  | appendicitis | 40.998   | 0.934    | 16    | 14  | Relu          | ClipRound       |
| 3   | CSEEM  | appendicitis | 35.999   | 0.962    | 32    | 35  | Relu          | ClipRound       |
| 3   | CSEEM  | appendicitis | 9.0      | 0.943    | 8     | 28  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | appendicitis | 32.999   | 0.934    | 16    | 24  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | appendicitis | 27.001   | 0.925    | 32    | 22  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | appendicitis | 7.0      | 0.906    | 8     | 20  | Sin           | ClipRound       |
| 3   | CSEEM  | appendicitis | 41.004   | 0.906    | 16    | 20  | Sin           | ClipRound       |
| 3   | CSEEM  | appendicitis | 53.0     | 0.925    | 32    | 30  | Sin           | ClipRound       |
| 4   | CSEEM  | appendicitis | 17.998   | 0.915    | 8     | 25  | Tanh          | ClipRound       |
| 4   | CSEEM  | appendicitis | 41.998   | 0.925    | 16    | 20  | Tanh          | ClipRound       |
| 4   | CSEEM  | appendicitis | 62.999   | 0.934    | 32    | 30  | Tanh          | ClipRound       |
| 4   | CSEEM  | appendicitis | 4.999    | 0.906    | 8     | 3   | SoftRelu      | ClipRound       |
| 4   | CSEEM  | appendicitis | 21.001   | 0.915    | 16    | 13  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | appendicitis | 74.0     | 0.925    | 32    | 17  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | appendicitis | 20.999   | 0.915    | 8     | 18  | Relu          | ClipRound       |
| 4   | CSEEM  | appendicitis | 23.001   | 0.925    | 16    | 27  | Relu          | ClipRound       |
| 4   | CSEEM  | appendicitis | 38.999   | 0.925    | 32    | 16  | Relu          | ClipRound       |
| 4   | CSEEM  | appendicitis | 11.998   | 0.925    | 8     | 21  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | appendicitis | 44.002   | 0.925    | 16    | 23  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | appendicitis | 73.999   | 0.943    | 32    | 21  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | appendicitis | 17.0     | 0.934    | 8     | 34  | Sin           | ClipRound       |
| 4   | CSEEM  | appendicitis | 27.999   | 0.953    | 16    | 31  | Sin           | ClipRound       |
| 4   | CSEEM  | appendicitis | 31.999   | 0.925    | 32    | 26  | Sin           | ClipRound       |
| 5   | CSEEM  | appendicitis | 20.999   | 0.915    | 8     | 14  | Tanh          | ClipRound       |
| 5   | CSEEM  | appendicitis | 14.0     | 0.906    | 16    | 13  | Tanh          | ClipRound       |
| 5   | CSEEM  | appendicitis | 58.999   | 0.934    | 32    | 24  | Tanh          | ClipRound       |
| 5   | CSEEM  | appendicitis | 4.0      | 0.906    | 8     | 10  | SoftRelu      | ClipRound       |

Table I.2: All CSEEM Results of classification problems (2/83).

| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | appendicitis | 11.0     | 0.906    | 16    | 20  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | appendicitis | 40.999   | 0.925    | 32    | 21  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | appendicitis | 8.0      | 0.906    | 8     | 11  | Relu          | ClipRound       |
| 5   | CSEEM  | appendicitis | 25.994   | 0.943    | 16    | 32  | Relu          | ClipRound       |
| 5   | CSEEM  | appendicitis | 43.0     | 0.925    | 32    | 22  | Relu          | ClipRound       |
| 5   | CSEEM  | appendicitis | 11.001   | 0.896    | 8     | 9   | Sigmoid       | ClipRound       |
| 5   | CSEEM  | appendicitis | 22.988   | 0.925    | 16    | 23  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | appendicitis | 46.998   | 0.934    | 32    | 21  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | appendicitis | 14.0     | 0.915    | 8     | 24  | Sin           | ClipRound       |
| 5   | CSEEM  | appendicitis | 36.999   | 0.934    | 16    | 30  | Sin           | ClipRound       |
| 5   | CSEEM  | appendicitis | 28.999   | 0.915    | 32    | 17  | Sin           | ClipRound       |
| 1   | CSEEM  | australian   | 507.999  | 0.939    | 8     | 243 | Tanh          | ClipRound       |
| 1   | CSEEM  | australian   | 496.999  | 0.932    | 16    | 196 | Tanh          | ClipRound       |
| 1   | CSEEM  | australian   | 955.999  | 0.923    | 32    | 216 | Tanh          | ClipRound       |
| 1   | CSEEM  | australian   | 503.999  | 0.919    | 8     | 157 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | australian   | 649.008  | 0.92     | 16    | 156 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | australian   | 664.508  | 0.919    | 32    | 153 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | australian   | 789.0    | 0.938    | 8     | 246 | Relu          | ClipRound       |
| 1   | CSEEM  | australian   | 75.001   | 0.92     | 16    | 141 | Relu          | ClipRound       |
| 1   | CSEEM  | australian   | 893.0    | 0.932    | 32    | 196 | Relu          | ClipRound       |
| 1   | CSEEM  | australian   | 573.0    | 0.929    | 8     | 216 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | australian   | 272.003  | 0.925    | 16    | 192 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | australian   | 925.001  | 0.913    | 32    | 139 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | australian   | 567.0    | 0.858    | 8     | 235 | Sin           | ClipRound       |
| 1   | CSEEM  | australian   | 529.537  | 0.875    | 16    | 179 | Sin           | ClipRound       |
| 1   | CSEEM  | australian   | 372.999  | 0.909    | 32    | 275 | Sin           | ClipRound       |
| 2   | CSEEM  | australian   | 828.999  | 0.932    | 8     | 195 | Tanh          | ClipRound       |
| 2   | CSEEM  | australian   | 566.993  | 0.919    | 16    | 160 | Tanh          | ClipRound       |
| 2   | CSEEM  | australian   | 129.999  | 0.938    | 32    | 221 | Tanh          | ClipRound       |
| 2   | CSEEM  | australian   | 665.001  | 0.919    | 8     | 151 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | australian   | 676.0    | 0.926    | 16    | 184 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | australian   | 423.509  | 0.925    | 32    | 169 | SoftRelu      | ClipRound       |

Table I.3: All CSEEM Results of classification problems (3/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | australian | 533.999  | 0.916    | 8     | 161 | Relu          | ClipRound       |
| 2   | CSEEM  | australian | 532.995  | 0.943    | 16    | 237 | Relu          | ClipRound       |
| 2   | CSEEM  | australian | 167.997  | 0.938    | 32    | 210 | Relu          | ClipRound       |
| 2   | CSEEM  | australian | 487.001  | 0.929    | 8     | 214 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | australian | 818.0    | 0.925    | 16    | 201 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | australian | 723.508  | 0.929    | 32    | 182 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | australian | 411.999  | 0.906    | 8     | 322 | Sin           | ClipRound       |
| 2   | CSEEM  | australian | 387.522  | 0.884    | 16    | 272 | Sin           | ClipRound       |
| 2   | CSEEM  | australian | 317.0    | 0.909    | 32    | 265 | Sin           | ClipRound       |
| 3   | CSEEM  | australian | 577.0    | 0.938    | 8     | 248 | Tanh          | ClipRound       |
| 3   | CSEEM  | australian | 34.001   | 0.936    | 16    | 224 | Tanh          | ClipRound       |
| 3   | CSEEM  | australian | 835.51   | 0.926    | 32    | 186 | Tanh          | ClipRound       |
| 3   | CSEEM  | australian | 78.999   | 0.938    | 8     | 225 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | australian | 81.965   | 0.932    | 16    | 207 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | australian | 477.998  | 0.933    | 32    | 207 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | australian | 129.0    | 0.923    | 8     | 180 | Relu          | ClipRound       |
| 3   | CSEEM  | australian | 870.991  | 0.939    | 16    | 233 | Relu          | ClipRound       |
| 3   | CSEEM  | australian | 100.002  | 0.913    | 32    | 126 | Relu          | ClipRound       |
| 3   | CSEEM  | australian | 268.999  | 0.9      | 8     | 94  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | australian | 369.004  | 0.928    | 16    | 188 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | australian | 915.998  | 0.926    | 32    | 162 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | australian | 349.0    | 0.838    | 8     | 236 | Sin           | ClipRound       |
| 3   | CSEEM  | australian | 761.008  | 0.886    | 16    | 271 | Sin           | ClipRound       |
| 3   | CSEEM  | australian | 673.508  | 0.877    | 32    | 246 | Sin           | ClipRound       |
| 4   | CSEEM  | australian | 177.996  | 0.897    | 8     | 73  | Tanh          | ClipRound       |
| 4   | CSEEM  | australian | 123.06   | 0.922    | 16    | 182 | Tanh          | ClipRound       |
| 4   | CSEEM  | australian | 547.998  | 0.91     | 32    | 144 | Tanh          | ClipRound       |
| 4   | CSEEM  | australian | 803.998  | 0.928    | 8     | 198 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | australian | 552.627  | 0.928    | 16    | 190 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | australian | 921.509  | 0.925    | 32    | 179 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | australian | 227.999  | 0.917    | 8     | 157 | Relu          | ClipRound       |
| 4   | CSEEM  | australian | 872.003  | 0.928    | 16    | 187 | Relu          | ClipRound       |

Table I.4: All CSEEM Results of classification problems (4/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | australian | 334.999  | 0.93     | 32    | 157 | Relu          | ClipRound       |
| 4   | CSEEM  | australian | 969.999  | 0.925    | 8     | 190 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | australian | 359.0    | 0.93     | 16    | 174 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | australian | 797.001  | 0.928    | 32    | 157 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | australian | 720.0    | 0.883    | 8     | 304 | Sin           | ClipRound       |
| 4   | CSEEM  | australian | 979.001  | 0.867    | 16    | 261 | Sin           | ClipRound       |
| 4   | CSEEM  | australian | 388.999  | 0.903    | 32    | 284 | Sin           | ClipRound       |
| 5   | CSEEM  | australian | 112.001  | 0.919    | 8     | 171 | Tanh          | ClipRound       |
| 5   | CSEEM  | australian | 194.0    | 0.939    | 16    | 232 | Tanh          | ClipRound       |
| 5   | CSEEM  | australian | 651.001  | 0.923    | 32    | 159 | Tanh          | ClipRound       |
| 5   | CSEEM  | australian | 197.0    | 0.913    | 8     | 130 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | australian | 714.0    | 0.925    | 16    | 198 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | australian | 587.0    | 0.925    | 32    | 184 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | australian | 551.0    | 0.926    | 8     | 187 | Relu          | ClipRound       |
| 5   | CSEEM  | australian | 495.001  | 0.919    | 16    | 185 | Relu          | ClipRound       |
| 5   | CSEEM  | australian | 446.999  | 0.923    | 32    | 185 | Relu          | ClipRound       |
| 5   | CSEEM  | australian | 489.0    | 0.89     | 8     | 95  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | australian | 752.999  | 0.92     | 16    | 173 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | australian | 204.509  | 0.932    | 32    | 152 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | australian | 299.0    | 0.893    | 8     | 279 | Sin           | ClipRound       |
| 5   | CSEEM  | australian | 567.991  | 0.888    | 16    | 235 | Sin           | ClipRound       |
| 5   | CSEEM  | australian | 140.0    | 0.888    | 32    | 240 | Sin           | ClipRound       |
| 1   | CSEEM  | automobile | 34.998   | 0.931    | 8     | 82  | Tanh          | ClipRound       |
| 1   | CSEEM  | automobile | 110.999  | 0.925    | 16    | 73  | Tanh          | ClipRound       |
| 1   | CSEEM  | automobile | 420.0    | 0.906    | 32    | 66  | Tanh          | ClipRound       |
| 1   | CSEEM  | automobile | 19.999   | 0.874    | 8     | 63  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | automobile | 109.006  | 0.868    | 16    | 60  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | automobile | 145.0    | 0.906    | 32    | 66  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | automobile | 55.0     | 0.881    | 8     | 65  | Relu          | ClipRound       |
| 1   | CSEEM  | automobile | 120.998  | 0.943    | 16    | 71  | Relu          | ClipRound       |
| 1   | CSEEM  | automobile | 126.0    | 0.855    | 32    | 57  | Relu          | ClipRound       |
| 1   | CSEEM  | automobile | 24.998   | 0.868    | 8     | 64  | Sigmoid       | ClipRound       |

Table I.5: All CSEEM Results of classification problems (5/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | automobile | 106.999  | 0.874    | 16    | 59  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | automobile | 216.508  | 0.912    | 32    | 65  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | automobile | 37.999   | 0.585    | 8     | 66  | Sin           | ClipRound       |
| 1   | CSEEM  | automobile | 54.005   | 0.711    | 16    | 74  | Sin           | ClipRound       |
| 1   | CSEEM  | automobile | 263.999  | 0.811    | 32    | 80  | Sin           | ClipRound       |
| 2   | CSEEM  | automobile | 30.0     | 0.956    | 8     | 78  | Tanh          | ClipRound       |
| 2   | CSEEM  | automobile | 57.0     | 0.805    | 16    | 57  | Tanh          | ClipRound       |
| 2   | CSEEM  | automobile | 185.0    | 0.887    | 32    | 68  | Tanh          | ClipRound       |
| 2   | CSEEM  | automobile | 39.0     | 0.855    | 8     | 59  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | automobile | 44.995   | 0.893    | 16    | 66  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | automobile | 244.0    | 0.912    | 32    | 65  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | automobile | 10.0     | 0.78     | 8     | 54  | Relu          | ClipRound       |
| 2   | CSEEM  | automobile | 60.0     | 0.918    | 16    | 70  | Relu          | ClipRound       |
| 2   | CSEEM  | automobile | 196.999  | 0.912    | 32    | 68  | Relu          | ClipRound       |
| 2   | CSEEM  | automobile | 23.001   | 0.849    | 8     | 61  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | automobile | 89.993   | 0.862    | 16    | 64  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | automobile | 84.998   | 0.874    | 32    | 63  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | automobile | 119.0    | 0.818    | 8     | 81  | Sin           | ClipRound       |
| 2   | CSEEM  | automobile | 51.99    | 0.786    | 16    | 85  | Sin           | ClipRound       |
| 2   | CSEEM  | automobile | 178.0    | 0.792    | 32    | 75  | Sin           | ClipRound       |
| 3   | CSEEM  | automobile | 76.999   | 0.811    | 8     | 56  | Tanh          | ClipRound       |
| 3   | CSEEM  | automobile | 71.998   | 0.862    | 16    | 65  | Tanh          | ClipRound       |
| 3   | CSEEM  | automobile | 129.998  | 0.925    | 32    | 72  | Tanh          | ClipRound       |
| 3   | CSEEM  | automobile | 9.0      | 0.698    | 8     | 40  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | automobile | 50.991   | 0.818    | 16    | 54  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | automobile | 83.998   | 0.843    | 32    | 53  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | automobile | 39.0     | 0.824    | 8     | 62  | Relu          | ClipRound       |
| 3   | CSEEM  | automobile | 41.994   | 0.881    | 16    | 60  | Relu          | ClipRound       |
| 3   | CSEEM  | automobile | 102.998  | 0.836    | 32    | 55  | Relu          | ClipRound       |
| 3   | CSEEM  | automobile | 23.0     | 0.843    | 8     | 55  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | automobile | 191.986  | 0.811    | 16    | 52  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | automobile | 186.0    | 0.862    | 32    | 62  | Sigmoid       | ClipRound       |

Table I.6: All CSEEM Results of classification problems (6/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | automobile | 34.999   | 0.679    | 8     | 58  | Sin           | ClipRound       |
| 3   | CSEEM  | automobile | 149.005  | 0.83     | 16    | 87  | Sin           | ClipRound       |
| 3   | CSEEM  | automobile | 120.999  | 0.761    | 32    | 75  | Sin           | ClipRound       |
| 4   | CSEEM  | automobile | 100.0    | 0.862    | 8     | 59  | Tanh          | ClipRound       |
| 4   | CSEEM  | automobile | 94.999   | 0.874    | 16    | 63  | Tanh          | ClipRound       |
| 4   | CSEEM  | automobile | 208.0    | 0.849    | 32    | 60  | Tanh          | ClipRound       |
| 4   | CSEEM  | automobile | 63.999   | 0.868    | 8     | 67  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | automobile | 38.993   | 0.893    | 16    | 71  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | automobile | 249.999  | 0.912    | 32    | 62  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | automobile | 13.0     | 0.931    | 8     | 71  | Relu          | ClipRound       |
| 4   | CSEEM  | automobile | 26.0     | 0.818    | 16    | 58  | Relu          | ClipRound       |
| 4   | CSEEM  | automobile | 228.999  | 0.912    | 32    | 69  | Relu          | ClipRound       |
| 4   | CSEEM  | automobile | 40.999   | 0.868    | 8     | 73  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | automobile | 158.999  | 0.918    | 16    | 69  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | automobile | 208.999  | 0.849    | 32    | 63  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | automobile | 78.0     | 0.849    | 8     | 83  | Sin           | ClipRound       |
| 4   | CSEEM  | automobile | 50.999   | 0.792    | 16    | 77  | Sin           | ClipRound       |
| 4   | CSEEM  | automobile | 266.999  | 0.786    | 32    | 79  | Sin           | ClipRound       |
| 5   | CSEEM  | automobile | 27.999   | 0.843    | 8     | 67  | Tanh          | ClipRound       |
| 5   | CSEEM  | automobile | 62.999   | 0.862    | 16    | 67  | Tanh          | ClipRound       |
| 5   | CSEEM  | automobile | 268.999  | 0.874    | 32    | 67  | Tanh          | ClipRound       |
| 5   | CSEEM  | automobile | 46.999   | 0.843    | 8     | 59  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | automobile | 54.999   | 0.843    | 16    | 58  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | automobile | 325.0    | 0.893    | 32    | 64  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | automobile | 37.999   | 0.937    | 8     | 76  | Relu          | ClipRound       |
| 5   | CSEEM  | automobile | 84.995   | 0.836    | 16    | 57  | Relu          | ClipRound       |
| 5   | CSEEM  | automobile | 185.0    | 0.849    | 32    | 67  | Relu          | ClipRound       |
| 5   | CSEEM  | automobile | 31.0     | 0.849    | 8     | 64  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | automobile | 355.756  | 0.874    | 16    | 59  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | automobile | 326.0    | 0.912    | 32    | 70  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | automobile | 34.0     | 0.818    | 8     | 84  | Sin           | ClipRound       |
| 5   | CSEEM  | automobile | 114.993  | 0.862    | 16    | 79  | Sin           | ClipRound       |

Table I.7: All CSEEM Results of classification problems (7/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | automobile | 147.999  | 0.849    | 32    | 84  | Sin           | ClipRound       |
| 1   | CSEEM  | balance    | 237.0    | 0.906    | 8     | 88  | Tanh          | ClipRound       |
| 1   | CSEEM  | balance    | 887.999  | 0.915    | 16    | 111 | Tanh          | ClipRound       |
| 1   | CSEEM  | balance    | 60.999   | 0.915    | 32    | 123 | Tanh          | ClipRound       |
| 1   | CSEEM  | balance    | 656.0    | 0.904    | 8     | 90  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | balance    | 148.999  | 0.907    | 16    | 80  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | balance    | 902.0    | 0.915    | 32    | 113 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | balance    | 952.0    | 0.912    | 8     | 102 | Relu          | ClipRound       |
| 1   | CSEEM  | balance    | 932.986  | 0.915    | 16    | 102 | Relu          | ClipRound       |
| 1   | CSEEM  | balance    | 548.999  | 0.906    | 32    | 92  | Relu          | ClipRound       |
| 1   | CSEEM  | balance    | 238.999  | 0.92     | 8     | 95  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | balance    | 925.993  | 0.91     | 16    | 90  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | balance    | 558.999  | 0.92     | 32    | 100 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | balance    | 607.0    | 0.915    | 8     | 101 | Sin           | ClipRound       |
| 1   | CSEEM  | balance    | 701.999  | 0.922    | 16    | 106 | Sin           | ClipRound       |
| 1   | CSEEM  | balance    | 816.999  | 0.922    | 32    | 107 | Sin           | ClipRound       |
| 2   | CSEEM  | balance    | 534.997  | 0.918    | 8     | 137 | Tanh          | ClipRound       |
| 2   | CSEEM  | balance    | 0.992    | 0.907    | 16    | 110 | Tanh          | ClipRound       |
| 2   | CSEEM  | balance    | 765.999  | 0.912    | 32    | 113 | Tanh          | ClipRound       |
| 2   | CSEEM  | balance    | 260.999  | 0.93     | 8     | 140 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | balance    | 716.012  | 0.92     | 16    | 148 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | balance    | 187.001  | 0.925    | 32    | 132 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | balance    | 496.999  | 0.918    | 8     | 136 | Relu          | ClipRound       |
| 2   | CSEEM  | balance    | 456.496  | 0.907    | 16    | 127 | Relu          | ClipRound       |
| 2   | CSEEM  | balance    | 139.0    | 0.914    | 32    | 93  | Relu          | ClipRound       |
| 2   | CSEEM  | balance    | 468.0    | 0.92     | 8     | 122 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | balance    | 859.998  | 0.918    | 16    | 110 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | balance    | 509.0    | 0.918    | 32    | 116 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | balance    | 624.998  | 0.92     | 8     | 129 | Sin           | ClipRound       |
| 2   | CSEEM  | balance    | 328.993  | 0.922    | 16    | 127 | Sin           | ClipRound       |
| 2   | CSEEM  | balance    | 827.999  | 0.923    | 32    | 121 | Sin           | ClipRound       |
| 3   | CSEEM  | balance    | 562.998  | 0.904    | 8     | 101 | Tanh          | ClipRound       |

Table I.8: All CSEEM Results of classification problems (8/83).



| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | balance | 659.007  | 0.915    | 16    | 103 | Tanh          | ClipRound       |
| 3   | CSEEM  | balance | 201.999  | 0.914    | 32    | 111 | Tanh          | ClipRound       |
| 3   | CSEEM  | balance | 236.0    | 0.904    | 8     | 107 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | balance | 652.246  | 0.925    | 16    | 132 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | balance | 719.999  | 0.904    | 32    | 73  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | balance | 401.0    | 0.915    | 8     | 141 | Relu          | ClipRound       |
| 3   | CSEEM  | balance | 668.991  | 0.904    | 16    | 89  | Relu          | ClipRound       |
| 3   | CSEEM  | balance | 75.999   | 0.923    | 32    | 118 | Relu          | ClipRound       |
| 3   | CSEEM  | balance | 74.0     | 0.894    | 8     | 49  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | balance | 674.99   | 0.92     | 16    | 112 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | balance | 529.001  | 0.912    | 32    | 73  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | balance | 524.999  | 0.91     | 8     | 82  | Sin           | ClipRound       |
| 3   | CSEEM  | balance | 922.993  | 0.917    | 16    | 99  | Sin           | ClipRound       |
| 3   | CSEEM  | balance | 540.552  | 0.922    | 32    | 103 | Sin           | ClipRound       |
| 4   | CSEEM  | balance | 508.999  | 0.906    | 8     | 114 | Tanh          | ClipRound       |
| 4   | CSEEM  | balance | 34.99    | 0.915    | 16    | 116 | Tanh          | ClipRound       |
| 4   | CSEEM  | balance | 870.998  | 0.92     | 32    | 131 | Tanh          | ClipRound       |
| 4   | CSEEM  | balance | 199.999  | 0.92     | 8     | 123 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | balance | 539.27   | 0.915    | 16    | 102 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | balance | 778.998  | 0.918    | 32    | 102 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | balance | 547.0    | 0.91     | 8     | 102 | Relu          | ClipRound       |
| 4   | CSEEM  | balance | 609.999  | 0.93     | 16    | 147 | Relu          | ClipRound       |
| 4   | CSEEM  | balance | 496.999  | 0.914    | 32    | 100 | Relu          | ClipRound       |
| 4   | CSEEM  | balance | 399.999  | 0.91     | 8     | 79  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | balance | 872.001  | 0.917    | 16    | 103 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | balance | 638.0    | 0.923    | 32    | 110 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | balance | 455.998  | 0.918    | 8     | 114 | Sin           | ClipRound       |
| 4   | CSEEM  | balance | 70.002   | 0.92     | 16    | 103 | Sin           | ClipRound       |
| 4   | CSEEM  | balance | 234.002  | 0.925    | 32    | 111 | Sin           | ClipRound       |
| 5   | CSEEM  | balance | 415.999  | 0.92     | 8     | 143 | Tanh          | ClipRound       |
| 5   | CSEEM  | balance | 358.998  | 0.914    | 16    | 129 | Tanh          | ClipRound       |
| 5   | CSEEM  | balance | 327.0    | 0.906    | 32    | 87  | Tanh          | ClipRound       |

Table I.9: All CSEEM Results of classification problems (9/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | balance | 199.999  | 0.904    | 8     | 91  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | balance | 692.002  | 0.918    | 16    | 96  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | balance | 795.998  | 0.914    | 32    | 114 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | balance | 485.999  | 0.89     | 8     | 84  | Relu          | ClipRound       |
| 5   | CSEEM  | balance | 477.988  | 0.902    | 16    | 73  | Relu          | ClipRound       |
| 5   | CSEEM  | balance | 535.0    | 0.936    | 32    | 140 | Relu          | ClipRound       |
| 5   | CSEEM  | balance | 263.0    | 0.917    | 8     | 115 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | balance | 381.601  | 0.912    | 16    | 53  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | balance | 727.999  | 0.918    | 32    | 104 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | balance | 208.999  | 0.909    | 8     | 61  | Sin           | ClipRound       |
| 5   | CSEEM  | balance | 500.0    | 0.915    | 16    | 96  | Sin           | ClipRound       |
| 5   | CSEEM  | balance | 632.999  | 0.926    | 32    | 113 | Sin           | ClipRound       |
| 1   | CSEEM  | bands   | 311.999  | 0.921    | 8     | 183 | Tanh          | ClipRound       |
| 1   | CSEEM  | bands   | 350.999  | 0.888    | 16    | 173 | Tanh          | ClipRound       |
| 1   | CSEEM  | bands   | 778.999  | 0.866    | 32    | 127 | Tanh          | ClipRound       |
| 1   | CSEEM  | bands   | 233.0    | 0.899    | 8     | 157 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | bands   | 399.0    | 0.879    | 16    | 136 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | bands   | 775.998  | 0.882    | 32    | 148 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | bands   | 106.999  | 0.816    | 8     | 84  | Relu          | ClipRound       |
| 1   | CSEEM  | bands   | 188.004  | 0.901    | 16    | 163 | Relu          | ClipRound       |
| 1   | CSEEM  | bands   | 801.0    | 0.882    | 32    | 145 | Relu          | ClipRound       |
| 1   | CSEEM  | bands   | 280.998  | 0.874    | 8     | 150 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | bands   | 467.0    | 0.868    | 16    | 149 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | bands   | 312.506  | 0.874    | 32    | 138 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | bands   | 283.999  | 0.904    | 8     | 198 | Sin           | ClipRound       |
| 1   | CSEEM  | bands   | 501.996  | 0.811    | 16    | 98  | Sin           | ClipRound       |
| 1   | CSEEM  | bands   | 303.999  | 0.847    | 32    | 125 | Sin           | ClipRound       |
| 2   | CSEEM  | bands   | 362.0    | 0.904    | 8     | 172 | Tanh          | ClipRound       |
| 2   | CSEEM  | bands   | 363.997  | 0.877    | 16    | 137 | Tanh          | ClipRound       |
| 2   | CSEEM  | bands   | 453.997  | 0.888    | 32    | 160 | Tanh          | ClipRound       |
| 2   | CSEEM  | bands   | 260.999  | 0.888    | 8     | 151 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | bands   | 155.001  | 0.86     | 16    | 127 | SoftRelu      | ClipRound       |

Table I.10: All CSEEM Results of classification problems (10/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | bands   | 811.999  | 0.929    | 32    | 148 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | bands   | 363.998  | 0.926    | 8     | 173 | Relu          | ClipRound       |
| 2   | CSEEM  | bands   | 587.377  | 0.918    | 16    | 171 | Relu          | ClipRound       |
| 2   | CSEEM  | bands   | 329.0    | 0.879    | 32    | 113 | Relu          | ClipRound       |
| 2   | CSEEM  | bands   | 89.999   | 0.811    | 8     | 91  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | bands   | 241.997  | 0.882    | 16    | 151 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | bands   | 465.999  | 0.901    | 32    | 150 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | bands   | 37.0     | 0.715    | 8     | 55  | Sin           | ClipRound       |
| 2   | CSEEM  | bands   | 369.408  | 0.874    | 16    | 182 | Sin           | ClipRound       |
| 2   | CSEEM  | bands   | 5.998    | 0.838    | 32    | 129 | Sin           | ClipRound       |
| 3   | CSEEM  | bands   | 56.999   | 0.833    | 8     | 94  | Tanh          | ClipRound       |
| 3   | CSEEM  | bands   | 756.039  | 0.871    | 16    | 145 | Tanh          | ClipRound       |
| 3   | CSEEM  | bands   | 439.998  | 0.868    | 32    | 141 | Tanh          | ClipRound       |
| 3   | CSEEM  | bands   | 415.999  | 0.904    | 8     | 163 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | bands   | 971.037  | 0.904    | 16    | 147 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | bands   | 435.0    | 0.866    | 32    | 110 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | bands   | 355.001  | 0.899    | 8     | 168 | Relu          | ClipRound       |
| 3   | CSEEM  | bands   | 528.989  | 0.904    | 16    | 159 | Relu          | ClipRound       |
| 3   | CSEEM  | bands   | 770.0    | 0.893    | 32    | 155 | Relu          | ClipRound       |
| 3   | CSEEM  | bands   | 311.998  | 0.858    | 8     | 117 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | bands   | 117.0    | 0.833    | 16    | 111 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | bands   | 750.511  | 0.874    | 32    | 118 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | bands   | 151.0    | 0.844    | 8     | 143 | Sin           | ClipRound       |
| 3   | CSEEM  | bands   | 676.993  | 0.858    | 16    | 163 | Sin           | ClipRound       |
| 3   | CSEEM  | bands   | 148.506  | 0.868    | 32    | 168 | Sin           | ClipRound       |
| 4   | CSEEM  | bands   | 312.999  | 0.912    | 8     | 186 | Tanh          | ClipRound       |
| 4   | CSEEM  | bands   | 520.997  | 0.882    | 16    | 157 | Tanh          | ClipRound       |
| 4   | CSEEM  | bands   | 63.999   | 0.907    | 32    | 172 | Tanh          | ClipRound       |
| 4   | CSEEM  | bands   | 310.998  | 0.89     | 8     | 156 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | bands   | 413.593  | 0.888    | 16    | 138 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | bands   | 900.999  | 0.915    | 32    | 166 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | bands   | 113.0    | 0.89     | 8     | 141 | Relu          | ClipRound       |

Table I.11: All CSEEM Results of classification problems (11/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | bands   | 917.999  | 0.907    | 16    | 157 | Relu          | ClipRound       |
| 4   | CSEEM  | bands   | 104.998  | 0.89     | 32    | 138 | Relu          | ClipRound       |
| 4   | CSEEM  | bands   | 212.998  | 0.855    | 8     | 150 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | bands   | 687.998  | 0.882    | 16    | 145 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | bands   | 265.0    | 0.923    | 32    | 176 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | bands   | 109.998  | 0.748    | 8     | 76  | Sin           | ClipRound       |
| 4   | CSEEM  | bands   | 757.999  | 0.827    | 16    | 158 | Sin           | ClipRound       |
| 4   | CSEEM  | bands   | 299.998  | 0.874    | 32    | 154 | Sin           | ClipRound       |
| 5   | CSEEM  | bands   | 210.999  | 0.888    | 8     | 149 | Tanh          | ClipRound       |
| 5   | CSEEM  | bands   | 525.507  | 0.871    | 16    | 133 | Tanh          | ClipRound       |
| 5   | CSEEM  | bands   | 908.999  | 0.896    | 32    | 152 | Tanh          | ClipRound       |
| 5   | CSEEM  | bands   | 213.0    | 0.901    | 8     | 164 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | bands   | 600.0    | 0.868    | 16    | 124 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | bands   | 916.999  | 0.882    | 32    | 128 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | bands   | 267.998  | 0.901    | 8     | 147 | Relu          | ClipRound       |
| 5   | CSEEM  | bands   | 772.001  | 0.871    | 16    | 106 | Relu          | ClipRound       |
| 5   | CSEEM  | bands   | 827.002  | 0.874    | 32    | 115 | Relu          | ClipRound       |
| 5   | CSEEM  | bands   | 208.998  | 0.896    | 8     | 171 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | bands   | 610.992  | 0.904    | 16    | 161 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | bands   | 191.0    | 0.871    | 32    | 131 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | bands   | 269.999  | 0.838    | 8     | 148 | Sin           | ClipRound       |
| 5   | CSEEM  | bands   | 593.001  | 0.86     | 16    | 161 | Sin           | ClipRound       |
| 5   | CSEEM  | bands   | 43.0     | 0.89     | 32    | 178 | Sin           | ClipRound       |
| 1   | CSEEM  | breast  | 146.999  | 0.877    | 8     | 95  | Tanh          | ClipRound       |
| 1   | CSEEM  | breast  | 153.0    | 0.863    | 16    | 92  | Tanh          | ClipRound       |
| 1   | CSEEM  | breast  | 431.998  | 0.866    | 32    | 79  | Tanh          | ClipRound       |
| 1   | CSEEM  | breast  | 107.999  | 0.863    | 8     | 80  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | breast  | 400.007  | 0.91     | 16    | 111 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | breast  | 627.999  | 0.895    | 32    | 102 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | breast  | 89.0     | 0.877    | 8     | 88  | Relu          | ClipRound       |
| 1   | CSEEM  | breast  | 301.993  | 0.917    | 16    | 115 | Relu          | ClipRound       |
| 1   | CSEEM  | breast  | 540.0    | 0.877    | 32    | 84  | Relu          | ClipRound       |

Table I.12: All CSEEM Results of classification problems (12/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | breast  | 216.998  | 0.881    | 8     | 98  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | breast  | 441.999  | 0.924    | 16    | 118 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | breast  | 764.999  | 0.888    | 32    | 77  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | breast  | 79.997   | 0.892    | 8     | 122 | Sin           | ClipRound       |
| 1   | CSEEM  | breast  | 253.999  | 0.903    | 16    | 113 | Sin           | ClipRound       |
| 1   | CSEEM  | breast  | 493.0    | 0.888    | 32    | 101 | Sin           | ClipRound       |
| 2   | CSEEM  | breast  | 69.999   | 0.848    | 8     | 57  | Tanh          | ClipRound       |
| 2   | CSEEM  | breast  | 383.999  | 0.921    | 16    | 123 | Tanh          | ClipRound       |
| 2   | CSEEM  | breast  | 605.999  | 0.874    | 32    | 87  | Tanh          | ClipRound       |
| 2   | CSEEM  | breast  | 205.999  | 0.892    | 8     | 98  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | breast  | 285.989  | 0.884    | 16    | 99  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | breast  | 461.0    | 0.895    | 32    | 103 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | breast  | 84.999   | 0.888    | 8     | 106 | Relu          | ClipRound       |
| 2   | CSEEM  | breast  | 368.027  | 0.895    | 16    | 96  | Relu          | ClipRound       |
| 2   | CSEEM  | breast  | 930.999  | 0.903    | 32    | 100 | Relu          | ClipRound       |
| 2   | CSEEM  | breast  | 197.998  | 0.87     | 8     | 91  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | breast  | 318.993  | 0.895    | 16    | 101 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | breast  | 873.0    | 0.903    | 32    | 86  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | breast  | 193.0    | 0.884    | 8     | 117 | Sin           | ClipRound       |
| 2   | CSEEM  | breast  | 251.0    | 0.877    | 16    | 108 | Sin           | ClipRound       |
| 2   | CSEEM  | breast  | 237.0    | 0.87     | 32    | 88  | Sin           | ClipRound       |
| 3   | CSEEM  | breast  | 411.998  | 0.888    | 8     | 105 | Tanh          | ClipRound       |
| 3   | CSEEM  | breast  | 324.994  | 0.881    | 16    | 92  | Tanh          | ClipRound       |
| 3   | CSEEM  | breast  | 542.999  | 0.895    | 32    | 107 | Tanh          | ClipRound       |
| 3   | CSEEM  | breast  | 113.999  | 0.866    | 8     | 70  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | breast  | 149.0    | 0.856    | 16    | 74  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | breast  | 379.999  | 0.874    | 32    | 76  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | breast  | 103.0    | 0.866    | 8     | 93  | Relu          | ClipRound       |
| 3   | CSEEM  | breast  | 233.003  | 0.881    | 16    | 84  | Relu          | ClipRound       |
| 3   | CSEEM  | breast  | 313.0    | 0.877    | 32    | 81  | Relu          | ClipRound       |
| 3   | CSEEM  | breast  | 194.997  | 0.881    | 8     | 94  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | breast  | 103.994  | 0.881    | 16    | 79  | Sigmoid       | ClipRound       |

Table I.13: All CSEEM Results of classification problems (13/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | breast  | 357.0    | 0.91     | 32    | 108 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | breast  | 107.0    | 0.852    | 8     | 99  | Sin           | ClipRound       |
| 3   | CSEEM  | breast  | 264.998  | 0.884    | 16    | 118 | Sin           | ClipRound       |
| 3   | CSEEM  | breast  | 182.161  | 0.877    | 32    | 96  | Sin           | ClipRound       |
| 4   | CSEEM  | breast  | 149.002  | 0.874    | 8     | 73  | Tanh          | ClipRound       |
| 4   | CSEEM  | breast  | 557.993  | 0.903    | 16    | 104 | Tanh          | ClipRound       |
| 4   | CSEEM  | breast  | 536.999  | 0.888    | 32    | 90  | Tanh          | ClipRound       |
| 4   | CSEEM  | breast  | 141.0    | 0.881    | 8     | 87  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | breast  | 155.007  | 0.863    | 16    | 72  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | breast  | 418.0    | 0.884    | 32    | 90  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | breast  | 86.0     | 0.852    | 8     | 83  | Relu          | ClipRound       |
| 4   | CSEEM  | breast  | 506.998  | 0.892    | 16    | 94  | Relu          | ClipRound       |
| 4   | CSEEM  | breast  | 593.999  | 0.903    | 32    | 108 | Relu          | ClipRound       |
| 4   | CSEEM  | breast  | 219.997  | 0.884    | 8     | 78  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | breast  | 174.999  | 0.888    | 16    | 90  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | breast  | 54.0     | 0.91     | 32    | 103 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | breast  | 193.999  | 0.848    | 8     | 94  | Sin           | ClipRound       |
| 4   | CSEEM  | breast  | 405.0    | 0.856    | 16    | 88  | Sin           | ClipRound       |
| 4   | CSEEM  | breast  | 472.999  | 0.877    | 32    | 109 | Sin           | ClipRound       |
| 5   | CSEEM  | breast  | 39.998   | 0.848    | 8     | 47  | Tanh          | ClipRound       |
| 5   | CSEEM  | breast  | 79.999   | 0.892    | 16    | 91  | Tanh          | ClipRound       |
| 5   | CSEEM  | breast  | 641.999  | 0.87     | 32    | 70  | Tanh          | ClipRound       |
| 5   | CSEEM  | breast  | 283.0    | 0.899    | 8     | 115 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | breast  | 356.0    | 0.917    | 16    | 120 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | breast  | 310.998  | 0.874    | 32    | 83  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | breast  | 138.999  | 0.877    | 8     | 94  | Relu          | ClipRound       |
| 5   | CSEEM  | breast  | 235.989  | 0.877    | 16    | 83  | Relu          | ClipRound       |
| 5   | CSEEM  | breast  | 726.999  | 0.892    | 32    | 97  | Relu          | ClipRound       |
| 5   | CSEEM  | breast  | 261.0    | 0.888    | 8     | 93  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | breast  | 326.998  | 0.91     | 16    | 113 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | breast  | 326.999  | 0.895    | 32    | 110 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | breast  | 261.999  | 0.903    | 8     | 130 | Sin           | ClipRound       |

Table I.14: All CSEEM Results of classification problems (14/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | breast  | 284.999  | 0.87     | 16    | 93  | Sin           | ClipRound       |
| 5   | CSEEM  | breast  | 633.999  | 0.91     | 32    | 124 | Sin           | ClipRound       |
| 1   | CSEEM  | bupa    | 296.0    | 0.875    | 8     | 122 | Tanh          | ClipRound       |
| 1   | CSEEM  | bupa    | 340.0    | 0.887    | 16    | 117 | Tanh          | ClipRound       |
| 1   | CSEEM  | bupa    | 372.999  | 0.89     | 32    | 132 | Tanh          | ClipRound       |
| 1   | CSEEM  | bupa    | 123.999  | 0.872    | 8     | 108 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | bupa    | 602.995  | 0.87     | 16    | 113 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | bupa    | 69.999   | 0.887    | 32    | 131 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | bupa    | 138.0    | 0.861    | 8     | 129 | Relu          | ClipRound       |
| 1   | CSEEM  | bupa    | 446.985  | 0.884    | 16    | 137 | Relu          | ClipRound       |
| 1   | CSEEM  | bupa    | 85.001   | 0.861    | 32    | 98  | Relu          | ClipRound       |
| 1   | CSEEM  | bupa    | 138.999  | 0.867    | 8     | 124 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | bupa    | 450.992  | 0.87     | 16    | 105 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | bupa    | 817.999  | 0.896    | 32    | 137 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | bupa    | 336.998  | 0.87     | 8     | 123 | Sin           | ClipRound       |
| 1   | CSEEM  | bupa    | 402.501  | 0.887    | 16    | 144 | Sin           | ClipRound       |
| 1   | CSEEM  | bupa    | 844.999  | 0.881    | 32    | 133 | Sin           | ClipRound       |
| 2   | CSEEM  | bupa    | 129.0    | 0.884    | 8     | 137 | Tanh          | ClipRound       |
| 2   | CSEEM  | bupa    | 378.0    | 0.878    | 16    | 129 | Tanh          | ClipRound       |
| 2   | CSEEM  | bupa    | 456.999  | 0.881    | 32    | 120 | Tanh          | ClipRound       |
| 2   | CSEEM  | bupa    | 318.999  | 0.875    | 8     | 141 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | bupa    | 383.012  | 0.872    | 16    | 112 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | bupa    | 518.999  | 0.861    | 32    | 111 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | bupa    | 430.506  | 0.875    | 8     | 123 | Relu          | ClipRound       |
| 2   | CSEEM  | bupa    | 772.03   | 0.881    | 16    | 122 | Relu          | ClipRound       |
| 2   | CSEEM  | bupa    | 255.0    | 0.864    | 32    | 96  | Relu          | ClipRound       |
| 2   | CSEEM  | bupa    | 122.998  | 0.809    | 8     | 82  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | bupa    | 234.989  | 0.864    | 16    | 112 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | bupa    | 885.0    | 0.904    | 32    | 151 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | bupa    | 188.999  | 0.872    | 8     | 129 | Sin           | ClipRound       |
| 2   | CSEEM  | bupa    | 624.997  | 0.893    | 16    | 145 | Sin           | ClipRound       |
| 2   | CSEEM  | bupa    | 557.0    | 0.875    | 32    | 122 | Sin           | ClipRound       |

Table I.15: All CSEEM Results of classification problems (15/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | bupa    | 161.001  | 0.861    | 8     | 100 | Tanh          | ClipRound       |
| 3   | CSEEM  | bupa    | 433.0    | 0.87     | 16    | 120 | Tanh          | ClipRound       |
| 3   | CSEEM  | bupa    | 839.001  | 0.864    | 32    | 107 | Tanh          | ClipRound       |
| 3   | CSEEM  | bupa    | 311.999  | 0.881    | 8     | 135 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | bupa    | 451.0    | 0.861    | 16    | 100 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | bupa    | 564.0    | 0.87     | 32    | 126 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | bupa    | 257.002  | 0.881    | 8     | 127 | Relu          | ClipRound       |
| 3   | CSEEM  | bupa    | 675.433  | 0.858    | 16    | 111 | Relu          | ClipRound       |
| 3   | CSEEM  | bupa    | 440.999  | 0.872    | 32    | 107 | Relu          | ClipRound       |
| 3   | CSEEM  | bupa    | 202.999  | 0.887    | 8     | 139 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | bupa    | 593.138  | 0.881    | 16    | 119 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | bupa    | 602.999  | 0.893    | 32    | 137 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | bupa    | 256.999  | 0.875    | 8     | 138 | Sin           | ClipRound       |
| 3   | CSEEM  | bupa    | 401.995  | 0.829    | 16    | 112 | Sin           | ClipRound       |
| 3   | CSEEM  | bupa    | 561.0    | 0.872    | 32    | 117 | Sin           | ClipRound       |
| 4   | CSEEM  | bupa    | 227.0    | 0.843    | 8     | 87  | Tanh          | ClipRound       |
| 4   | CSEEM  | bupa    | 346.0    | 0.913    | 16    | 151 | Tanh          | ClipRound       |
| 4   | CSEEM  | bupa    | 909.998  | 0.881    | 32    | 122 | Tanh          | ClipRound       |
| 4   | CSEEM  | bupa    | 93.999   | 0.858    | 8     | 114 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | bupa    | 108.007  | 0.803    | 16    | 75  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | bupa    | 730.999  | 0.858    | 32    | 92  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | bupa    | 424.997  | 0.887    | 8     | 126 | Relu          | ClipRound       |
| 4   | CSEEM  | bupa    | 687.0    | 0.878    | 16    | 117 | Relu          | ClipRound       |
| 4   | CSEEM  | bupa    | 703.999  | 0.89     | 32    | 145 | Relu          | ClipRound       |
| 4   | CSEEM  | bupa    | 489.999  | 0.849    | 8     | 101 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | bupa    | 369.0    | 0.849    | 16    | 90  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | bupa    | 829.999  | 0.887    | 32    | 135 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | bupa    | 215.997  | 0.87     | 8     | 130 | Sin           | ClipRound       |
| 4   | CSEEM  | bupa    | 359.0    | 0.852    | 16    | 106 | Sin           | ClipRound       |
| 4   | CSEEM  | bupa    | 634.0    | 0.899    | 32    | 159 | Sin           | ClipRound       |
| 5   | CSEEM  | bupa    | 167.999  | 0.861    | 8     | 142 | Tanh          | ClipRound       |
| 5   | CSEEM  | bupa    | 784.0    | 0.896    | 16    | 132 | Tanh          | ClipRound       |

Table I.16: All CSEEM Results of classification problems (16/83).



| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | bupa      | 687.999  | 0.901    | 32    | 129 | Tanh          | ClipRound       |
| 5   | CSEEM  | bupa      | 334.997  | 0.875    | 8     | 131 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | bupa      | 383.0    | 0.852    | 16    | 96  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | bupa      | 354.998  | 0.838    | 32    | 95  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | bupa      | 131.0    | 0.858    | 8     | 106 | Relu          | ClipRound       |
| 5   | CSEEM  | bupa      | 147.994  | 0.843    | 16    | 99  | Relu          | ClipRound       |
| 5   | CSEEM  | bupa      | 421.0    | 0.875    | 32    | 115 | Relu          | ClipRound       |
| 5   | CSEEM  | bupa      | 302.0    | 0.838    | 8     | 95  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | bupa      | 238.991  | 0.867    | 16    | 110 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | bupa      | 47.998   | 0.884    | 32    | 134 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | bupa      | 54.0     | 0.809    | 8     | 71  | Sin           | ClipRound       |
| 5   | CSEEM  | bupa      | 264.001  | 0.913    | 16    | 169 | Sin           | ClipRound       |
| 5   | CSEEM  | bupa      | 581.0    | 0.884    | 32    | 133 | Sin           | ClipRound       |
| 1   | CSEEM  | cleveland | 109.998  | 0.751    | 8     | 119 | Tanh          | ClipRound       |
| 1   | CSEEM  | cleveland | 429.999  | 0.788    | 16    | 123 | Tanh          | ClipRound       |
| 1   | CSEEM  | cleveland | 603.999  | 0.835    | 32    | 138 | Tanh          | ClipRound       |
| 1   | CSEEM  | cleveland | 297.0    | 0.869    | 8     | 148 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | cleveland | 457.007  | 0.818    | 16    | 127 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | cleveland | 718.0    | 0.801    | 32    | 135 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | cleveland | 211.999  | 0.855    | 8     | 144 | Relu          | ClipRound       |
| 1   | CSEEM  | cleveland | 283.001  | 0.815    | 16    | 139 | Relu          | ClipRound       |
| 1   | CSEEM  | cleveland | 698.002  | 0.845    | 32    | 139 | Relu          | ClipRound       |
| 1   | CSEEM  | cleveland | 172.0    | 0.899    | 8     | 164 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | cleveland | 163.005  | 0.778    | 16    | 112 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | cleveland | 575.0    | 0.822    | 32    | 132 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | cleveland | 64.0     | 0.63     | 8     | 118 | Sin           | ClipRound       |
| 1   | CSEEM  | cleveland | 176.999  | 0.771    | 16    | 144 | Sin           | ClipRound       |
| 1   | CSEEM  | cleveland | 674.999  | 0.838    | 32    | 163 | Sin           | ClipRound       |
| 2   | CSEEM  | cleveland | 121.0    | 0.731    | 8     | 110 | Tanh          | ClipRound       |
| 2   | CSEEM  | cleveland | 530.993  | 0.795    | 16    | 124 | Tanh          | ClipRound       |
| 2   | CSEEM  | cleveland | 548.0    | 0.771    | 32    | 114 | Tanh          | ClipRound       |
| 2   | CSEEM  | cleveland | 64.998   | 0.815    | 8     | 146 | SoftRelu      | ClipRound       |

Table I.17: All CSEEM Results of classification problems (17/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | cleveland | 255.001  | 0.717    | 16    | 113 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | cleveland | 949.998  | 0.751    | 32    | 108 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | cleveland | 73.0     | 0.731    | 8     | 109 | Relu          | ClipRound       |
| 2   | CSEEM  | cleveland | 397.205  | 0.852    | 16    | 147 | Relu          | ClipRound       |
| 2   | CSEEM  | cleveland | 542.999  | 0.832    | 32    | 142 | Relu          | ClipRound       |
| 2   | CSEEM  | cleveland | 136.999  | 0.71     | 8     | 92  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | cleveland | 246.998  | 0.825    | 16    | 134 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | cleveland | 17.999   | 0.875    | 32    | 147 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | cleveland | 318.002  | 0.811    | 8     | 153 | Sin           | ClipRound       |
| 2   | CSEEM  | cleveland | 369.001  | 0.727    | 16    | 128 | Sin           | ClipRound       |
| 2   | CSEEM  | cleveland | 996.0    | 0.815    | 32    | 152 | Sin           | ClipRound       |
| 3   | CSEEM  | cleveland | 123.999  | 0.764    | 8     | 116 | Tanh          | ClipRound       |
| 3   | CSEEM  | cleveland | 765.006  | 0.872    | 16    | 140 | Tanh          | ClipRound       |
| 3   | CSEEM  | cleveland | 434.999  | 0.822    | 32    | 126 | Tanh          | ClipRound       |
| 3   | CSEEM  | cleveland | 72.999   | 0.657    | 8     | 92  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | cleveland | 936.391  | 0.852    | 16    | 139 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | cleveland | 212.999  | 0.801    | 32    | 130 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | cleveland | 136.002  | 0.838    | 8     | 139 | Relu          | ClipRound       |
| 3   | CSEEM  | cleveland | 136.003  | 0.778    | 16    | 118 | Relu          | ClipRound       |
| 3   | CSEEM  | cleveland | 32.999   | 0.798    | 32    | 121 | Relu          | ClipRound       |
| 3   | CSEEM  | cleveland | 219.999  | 0.754    | 8     | 114 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | cleveland | 569.007  | 0.781    | 16    | 114 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | cleveland | 178.999  | 0.848    | 32    | 141 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | cleveland | 64.002   | 0.498    | 8     | 71  | Sin           | ClipRound       |
| 3   | CSEEM  | cleveland | 556.524  | 0.811    | 16    | 157 | Sin           | ClipRound       |
| 3   | CSEEM  | cleveland | 468.998  | 0.805    | 32    | 150 | Sin           | ClipRound       |
| 4   | CSEEM  | cleveland | 9.999    | 0.529    | 8     | 47  | Tanh          | ClipRound       |
| 4   | CSEEM  | cleveland | 687.996  | 0.825    | 16    | 128 | Tanh          | ClipRound       |
| 4   | CSEEM  | cleveland | 537.998  | 0.785    | 32    | 118 | Tanh          | ClipRound       |
| 4   | CSEEM  | cleveland | 226.0    | 0.785    | 8     | 126 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | cleveland | 611.419  | 0.828    | 16    | 133 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | cleveland | 522.999  | 0.788    | 32    | 123 | SoftRelu      | ClipRound       |

Table I.18: All CSEEM Results of classification problems (18/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | cleveland | 157.999  | 0.704    | 8     | 106 | Relu          | ClipRound       |
| 4   | CSEEM  | cleveland | 216.998  | 0.855    | 16    | 154 | Relu          | ClipRound       |
| 4   | CSEEM  | cleveland | 697.999  | 0.815    | 32    | 133 | Relu          | ClipRound       |
| 4   | CSEEM  | cleveland | 251.999  | 0.855    | 8     | 143 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | cleveland | 497.999  | 0.798    | 16    | 134 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | cleveland | 4.0      | 0.781    | 32    | 103 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | cleveland | 94.0     | 0.842    | 8     | 177 | Sin           | ClipRound       |
| 4   | CSEEM  | cleveland | 280.0    | 0.721    | 16    | 131 | Sin           | ClipRound       |
| 4   | CSEEM  | cleveland | 526.999  | 0.764    | 32    | 147 | Sin           | ClipRound       |
| 5   | CSEEM  | cleveland | 174.999  | 0.811    | 8     | 131 | Tanh          | ClipRound       |
| 5   | CSEEM  | cleveland | 213.998  | 0.882    | 16    | 165 | Tanh          | ClipRound       |
| 5   | CSEEM  | cleveland | 313.999  | 0.825    | 32    | 134 | Tanh          | ClipRound       |
| 5   | CSEEM  | cleveland | 115.0    | 0.761    | 8     | 117 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | cleveland | 364.999  | 0.832    | 16    | 135 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | cleveland | 185.999  | 0.808    | 32    | 124 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | cleveland | 197.999  | 0.852    | 8     | 155 | Relu          | ClipRound       |
| 5   | CSEEM  | cleveland | 310.989  | 0.771    | 16    | 114 | Relu          | ClipRound       |
| 5   | CSEEM  | cleveland | 399.0    | 0.838    | 32    | 136 | Relu          | ClipRound       |
| 5   | CSEEM  | cleveland | 92.998   | 0.835    | 8     | 128 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | cleveland | 293.005  | 0.791    | 16    | 128 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | cleveland | 998.998  | 0.855    | 32    | 145 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | cleveland | 21.0     | 0.421    | 8     | 38  | Sin           | ClipRound       |
| 5   | CSEEM  | cleveland | 349.998  | 0.714    | 16    | 136 | Sin           | ClipRound       |
| 5   | CSEEM  | cleveland | 904.998  | 0.731    | 32    | 136 | Sin           | ClipRound       |
| 1   | CSEEM  | crx       | 288.999  | 0.922    | 8     | 160 | Tanh          | ClipRound       |
| 1   | CSEEM  | crx       | 67.0     | 0.925    | 16    | 171 | Tanh          | ClipRound       |
| 1   | CSEEM  | crx       | 686.0    | 0.948    | 32    | 208 | Tanh          | ClipRound       |
| 1   | CSEEM  | crx       | 855.001  | 0.933    | 8     | 199 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | crx       | 938.009  | 0.931    | 16    | 200 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | crx       | 834.999  | 0.93     | 32    | 175 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | crx       | 339.0    | 0.914    | 8     | 106 | Relu          | ClipRound       |
| 1   | CSEEM  | crx       | 88.999   | 0.922    | 16    | 141 | Relu          | ClipRound       |

Table I.19: All CSEEM Results of classification problems (19/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | crx     | 550.51   | 0.926    | 32    | 152 | Relu          | ClipRound       |
| 1   | CSEEM  | crx     | 417.997  | 0.92     | 8     | 165 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | crx     | 145.999  | 0.933    | 16    | 193 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | crx     | 649.0    | 0.926    | 32    | 149 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | crx     | 510.999  | 0.871    | 8     | 201 | Sin           | ClipRound       |
| 1   | CSEEM  | crx     | 902.998  | 0.894    | 16    | 227 | Sin           | ClipRound       |
| 1   | CSEEM  | crx     | 14.999   | 0.911    | 32    | 277 | Sin           | ClipRound       |
| 2   | CSEEM  | crx     | 460.001  | 0.934    | 8     | 201 | Tanh          | ClipRound       |
| 2   | CSEEM  | crx     | 614.999  | 0.919    | 16    | 141 | Tanh          | ClipRound       |
| 2   | CSEEM  | crx     | 184.0    | 0.928    | 32    | 180 | Tanh          | ClipRound       |
| 2   | CSEEM  | crx     | 438.0    | 0.923    | 8     | 151 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | crx     | 507.001  | 0.931    | 16    | 164 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | crx     | 611.999  | 0.933    | 32    | 175 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | crx     | 462.0    | 0.93     | 8     | 184 | Relu          | ClipRound       |
| 2   | CSEEM  | crx     | 884.994  | 0.936    | 16    | 176 | Relu          | ClipRound       |
| 2   | CSEEM  | crx     | 816.507  | 0.939    | 32    | 171 | Relu          | ClipRound       |
| 2   | CSEEM  | crx     | 303.001  | 0.913    | 8     | 158 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | crx     | 411.003  | 0.93     | 16    | 173 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | crx     | 764.999  | 0.931    | 32    | 157 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | crx     | 462.508  | 0.894    | 8     | 243 | Sin           | ClipRound       |
| 2   | CSEEM  | crx     | 935.028  | 0.905    | 16    | 268 | Sin           | ClipRound       |
| 2   | CSEEM  | crx     | 188.001  | 0.908    | 32    | 273 | Sin           | ClipRound       |
| 3   | CSEEM  | crx     | 683.998  | 0.928    | 8     | 152 | Tanh          | ClipRound       |
| 3   | CSEEM  | crx     | 272.0    | 0.937    | 16    | 185 | Tanh          | ClipRound       |
| 3   | CSEEM  | crx     | 529.001  | 0.926    | 32    | 176 | Tanh          | ClipRound       |
| 3   | CSEEM  | crx     | 482.999  | 0.936    | 8     | 217 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | crx     | 443.001  | 0.92     | 16    | 148 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | crx     | 682.999  | 0.93     | 32    | 139 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | crx     | 465.999  | 0.931    | 8     | 159 | Relu          | ClipRound       |
| 3   | CSEEM  | crx     | 517.002  | 0.942    | 16    | 190 | Relu          | ClipRound       |
| 3   | CSEEM  | crx     | 262.0    | 0.926    | 32    | 149 | Relu          | ClipRound       |
| 3   | CSEEM  | crx     | 213.0    | 0.893    | 8     | 84  | Sigmoid       | ClipRound       |

Table I.20: All CSEEM Results of classification problems (20/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | crx     | 571.005  | 0.923    | 16    | 170 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | crx     | 700.001  | 0.939    | 32    | 187 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | crx     | 262.0    | 0.9      | 8     | 302 | Sin           | ClipRound       |
| 3   | CSEEM  | crx     | 542.0    | 0.925    | 16    | 314 | Sin           | ClipRound       |
| 3   | CSEEM  | crx     | 207.016  | 0.882    | 32    | 228 | Sin           | ClipRound       |
| 4   | CSEEM  | crx     | 573.0    | 0.928    | 8     | 175 | Tanh          | ClipRound       |
| 4   | CSEEM  | crx     | 603.006  | 0.931    | 16    | 182 | Tanh          | ClipRound       |
| 4   | CSEEM  | crx     | 494.0    | 0.945    | 32    | 213 | Tanh          | ClipRound       |
| 4   | CSEEM  | crx     | 302.999  | 0.925    | 8     | 154 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | crx     | 64.065   | 0.936    | 16    | 201 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | crx     | 187.999  | 0.925    | 32    | 140 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | crx     | 143.0    | 0.931    | 8     | 214 | Relu          | ClipRound       |
| 4   | CSEEM  | crx     | 249.001  | 0.942    | 16    | 211 | Relu          | ClipRound       |
| 4   | CSEEM  | crx     | 867.0    | 0.922    | 32    | 129 | Relu          | ClipRound       |
| 4   | CSEEM  | crx     | 286.002  | 0.908    | 8     | 116 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | crx     | 913.002  | 0.925    | 16    | 135 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | crx     | 395.999  | 0.94     | 32    | 173 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | crx     | 372.0    | 0.931    | 8     | 317 | Sin           | ClipRound       |
| 4   | CSEEM  | crx     | 29.999   | 0.904    | 16    | 264 | Sin           | ClipRound       |
| 4   | CSEEM  | crx     | 941.0    | 0.905    | 32    | 233 | Sin           | ClipRound       |
| 5   | CSEEM  | crx     | 286.0    | 0.92     | 8     | 169 | Tanh          | ClipRound       |
| 5   | CSEEM  | crx     | 94.999   | 0.936    | 16    | 194 | Tanh          | ClipRound       |
| 5   | CSEEM  | crx     | 262.0    | 0.928    | 32    | 169 | Tanh          | ClipRound       |
| 5   | CSEEM  | crx     | 718.999  | 0.919    | 8     | 154 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | crx     | 327.999  | 0.913    | 16    | 121 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | crx     | 879.999  | 0.931    | 32    | 183 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | crx     | 378.0    | 0.911    | 8     | 112 | Relu          | ClipRound       |
| 5   | CSEEM  | crx     | 791.002  | 0.93     | 16    | 144 | Relu          | ClipRound       |
| 5   | CSEEM  | crx     | 638.999  | 0.93     | 32    | 138 | Relu          | ClipRound       |
| 5   | CSEEM  | crx     | 228.0    | 0.923    | 8     | 195 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | crx     | 107.0    | 0.925    | 16    | 159 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | crx     | 676.999  | 0.92     | 32    | 141 | Sigmoid       | ClipRound       |

Table I.21: All CSEEM Results of classification problems (21/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | crx     | 125.999  | 0.9      | 8     | 251 | Sin           | ClipRound       |
| 5   | CSEEM  | crx     | 518.994  | 0.879    | 16    | 250 | Sin           | ClipRound       |
| 5   | CSEEM  | crx     | 266.998  | 0.905    | 32    | 248 | Sin           | ClipRound       |
| 1   | CSEEM  | ecoli   | 154.999  | 0.854    | 8     | 61  | Tanh          | ClipRound       |
| 1   | CSEEM  | ecoli   | 275.999  | 0.905    | 16    | 86  | Tanh          | ClipRound       |
| 1   | CSEEM  | ecoli   | 891.999  | 0.905    | 32    | 86  | Tanh          | ClipRound       |
| 1   | CSEEM  | ecoli   | 60.0     | 0.893    | 8     | 82  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | ecoli   | 112.997  | 0.899    | 16    | 89  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | ecoli   | 463.0    | 0.914    | 32    | 105 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | ecoli   | 276.998  | 0.914    | 8     | 101 | Relu          | ClipRound       |
| 1   | CSEEM  | ecoli   | 634.99   | 0.905    | 16    | 93  | Relu          | ClipRound       |
| 1   | CSEEM  | ecoli   | 839.0    | 0.887    | 32    | 81  | Relu          | ClipRound       |
| 1   | CSEEM  | ecoli   | 245.0    | 0.902    | 8     | 91  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | ecoli   | 280.993  | 0.911    | 16    | 100 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | ecoli   | 434.999  | 0.911    | 32    | 96  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | ecoli   | 218.998  | 0.92     | 8     | 108 | Sin           | ClipRound       |
| 1   | CSEEM  | ecoli   | 417.991  | 0.914    | 16    | 104 | Sin           | ClipRound       |
| 1   | CSEEM  | ecoli   | 896.0    | 0.893    | 32    | 83  | Sin           | ClipRound       |
| 2   | CSEEM  | ecoli   | 144.0    | 0.905    | 8     | 107 | Tanh          | ClipRound       |
| 2   | CSEEM  | ecoli   | 170.992  | 0.923    | 16    | 112 | Tanh          | ClipRound       |
| 2   | CSEEM  | ecoli   | 537.999  | 0.893    | 32    | 74  | Tanh          | ClipRound       |
| 2   | CSEEM  | ecoli   | 128.999  | 0.878    | 8     | 68  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | ecoli   | 317.999  | 0.902    | 16    | 74  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | ecoli   | 883.999  | 0.902    | 32    | 85  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | ecoli   | 169.0    | 0.881    | 8     | 78  | Relu          | ClipRound       |
| 2   | CSEEM  | ecoli   | 254.989  | 0.878    | 16    | 62  | Relu          | ClipRound       |
| 2   | CSEEM  | ecoli   | 565.999  | 0.878    | 32    | 79  | Relu          | ClipRound       |
| 2   | CSEEM  | ecoli   | 60.999   | 0.842    | 8     | 57  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | ecoli   | 299.992  | 0.92     | 16    | 109 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | ecoli   | 820.999  | 0.917    | 32    | 99  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | ecoli   | 420.998  | 0.893    | 8     | 79  | Sin           | ClipRound       |
| 2   | CSEEM  | ecoli   | 594.007  | 0.896    | 16    | 103 | Sin           | ClipRound       |

Table I.22: All CSEEM Results of classification problems (22/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | ecoli   | 481.0    | 0.911    | 32    | 95  | Sin           | ClipRound       |
| 3   | CSEEM  | ecoli   | 229.998  | 0.89     | 8     | 95  | Tanh          | ClipRound       |
| 3   | CSEEM  | ecoli   | 771.676  | 0.923    | 16    | 113 | Tanh          | ClipRound       |
| 3   | CSEEM  | ecoli   | 646.999  | 0.896    | 32    | 88  | Tanh          | ClipRound       |
| 3   | CSEEM  | ecoli   | 310.998  | 0.902    | 8     | 94  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | ecoli   | 301.0    | 0.905    | 16    | 94  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | ecoli   | 606.998  | 0.917    | 32    | 100 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | ecoli   | 211.999  | 0.905    | 8     | 99  | Relu          | ClipRound       |
| 3   | CSEEM  | ecoli   | 433.993  | 0.914    | 16    | 88  | Relu          | ClipRound       |
| 3   | CSEEM  | ecoli   | 27.998   | 0.911    | 32    | 102 | Relu          | ClipRound       |
| 3   | CSEEM  | ecoli   | 235.999  | 0.869    | 8     | 69  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | ecoli   | 241.994  | 0.905    | 16    | 91  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | ecoli   | 472.999  | 0.893    | 32    | 67  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | ecoli   | 213.0    | 0.92     | 8     | 109 | Sin           | ClipRound       |
| 3   | CSEEM  | ecoli   | 547.992  | 0.914    | 16    | 106 | Sin           | ClipRound       |
| 3   | CSEEM  | ecoli   | 392.0    | 0.893    | 32    | 92  | Sin           | ClipRound       |
| 4   | CSEEM  | ecoli   | 232.999  | 0.902    | 8     | 106 | Tanh          | ClipRound       |
| 4   | CSEEM  | ecoli   | 327.993  | 0.92     | 16    | 111 | Tanh          | ClipRound       |
| 4   | CSEEM  | ecoli   | 358.0    | 0.902    | 32    | 98  | Tanh          | ClipRound       |
| 4   | CSEEM  | ecoli   | 271.999  | 0.908    | 8     | 95  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | ecoli   | 406.014  | 0.917    | 16    | 112 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | ecoli   | 913.0    | 0.911    | 32    | 88  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | ecoli   | 50.998   | 0.842    | 8     | 50  | Relu          | ClipRound       |
| 4   | CSEEM  | ecoli   | 262.999  | 0.869    | 16    | 73  | Relu          | ClipRound       |
| 4   | CSEEM  | ecoli   | 798.999  | 0.893    | 32    | 85  | Relu          | ClipRound       |
| 4   | CSEEM  | ecoli   | 175.999  | 0.911    | 8     | 100 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | ecoli   | 221.513  | 0.911    | 16    | 99  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | ecoli   | 669.002  | 0.905    | 32    | 96  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | ecoli   | 271.998  | 0.914    | 8     | 117 | Sin           | ClipRound       |
| 4   | CSEEM  | ecoli   | 299.999  | 0.884    | 16    | 83  | Sin           | ClipRound       |
| 4   | CSEEM  | ecoli   | 860.999  | 0.908    | 32    | 95  | Sin           | ClipRound       |
| 5   | CSEEM  | ecoli   | 209.997  | 0.914    | 8     | 94  | Tanh          | ClipRound       |

Table I.23: All CSEEM Results of classification problems (23/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | ecoli   | 377.0    | 0.899    | 16    | 90  | Tanh          | ClipRound       |
| 5   | CSEEM  | ecoli   | 51.999   | 0.905    | 32    | 86  | Tanh          | ClipRound       |
| 5   | CSEEM  | ecoli   | 131.999  | 0.881    | 8     | 79  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | ecoli   | 647.99   | 0.917    | 16    | 93  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | ecoli   | 106.998  | 0.908    | 32    | 102 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | ecoli   | 300.999  | 0.884    | 8     | 72  | Relu          | ClipRound       |
| 5   | CSEEM  | ecoli   | 664.999  | 0.911    | 16    | 107 | Relu          | ClipRound       |
| 5   | CSEEM  | ecoli   | 47.999   | 0.896    | 32    | 87  | Relu          | ClipRound       |
| 5   | CSEEM  | ecoli   | 203.999  | 0.917    | 8     | 110 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | ecoli   | 413.989  | 0.917    | 16    | 104 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | ecoli   | 798.0    | 0.914    | 32    | 98  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | ecoli   | 562.999  | 0.935    | 8     | 120 | Sin           | ClipRound       |
| 5   | CSEEM  | ecoli   | 782.992  | 0.923    | 16    | 103 | Sin           | ClipRound       |
| 5   | CSEEM  | ecoli   | 655.999  | 0.899    | 32    | 98  | Sin           | ClipRound       |
| 1   | CSEEM  | flare   | 479.0    | 0.626    | 8     | 74  | Tanh          | ClipRound       |
| 1   | CSEEM  | flare   | 763.0    | 0.816    | 16    | 259 | Tanh          | ClipRound       |
| 1   | CSEEM  | flare   | 603.508  | 0.818    | 32    | 264 | Tanh          | ClipRound       |
| 1   | CSEEM  | flare   | 189.0    | 0.808    | 8     | 245 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | flare   | 822.035  | 0.816    | 16    | 278 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | flare   | 420.001  | 0.824    | 32    | 268 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | flare   | 188.998  | 0.82     | 8     | 272 | Relu          | ClipRound       |
| 1   | CSEEM  | flare   | 503.999  | 0.823    | 16    | 290 | Relu          | ClipRound       |
| 1   | CSEEM  | flare   | 12.0     | 0.826    | 32    | 299 | Relu          | ClipRound       |
| 1   | CSEEM  | flare   | 976.0    | 0.804    | 8     | 227 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | flare   | 368.991  | 0.826    | 16    | 291 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | flare   | 536.0    | 0.821    | 32    | 276 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | flare   | 274.998  | 0.827    | 8     | 268 | Sin           | ClipRound       |
| 1   | CSEEM  | flare   | 413.008  | 0.823    | 16    | 278 | Sin           | ClipRound       |
| 1   | CSEEM  | flare   | 669.0    | 0.822    | 32    | 256 | Sin           | ClipRound       |
| 2   | CSEEM  | flare   | 523.0    | 0.814    | 8     | 244 | Tanh          | ClipRound       |
| 2   | CSEEM  | flare   | 922.036  | 0.822    | 16    | 297 | Tanh          | ClipRound       |
| 2   | CSEEM  | flare   | 660.0    | 0.811    | 32    | 214 | Tanh          | ClipRound       |

Table I.24: All CSEEM Results of classification problems (24/83).



| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | flare   | 66.996   | 0.661    | 8     | 63  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | flare   | 47.544   | 0.826    | 16    | 275 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | flare   | 830.999  | 0.753    | 32    | 166 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | flare   | 672.999  | 0.82     | 8     | 250 | Relu          | ClipRound       |
| 2   | CSEEM  | flare   | 367.0    | 0.826    | 16    | 252 | Relu          | ClipRound       |
| 2   | CSEEM  | flare   | 220.512  | 0.825    | 32    | 279 | Relu          | ClipRound       |
| 2   | CSEEM  | flare   | 702.999  | 0.814    | 8     | 249 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | flare   | 810.509  | 0.819    | 16    | 286 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | flare   | 664.504  | 0.826    | 32    | 279 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | flare   | 973.001  | 0.822    | 8     | 298 | Sin           | ClipRound       |
| 2   | CSEEM  | flare   | 250.992  | 0.816    | 16    | 268 | Sin           | ClipRound       |
| 2   | CSEEM  | flare   | 63.0     | 0.83     | 32    | 272 | Sin           | ClipRound       |
| 3   | CSEEM  | flare   | 108.999  | 0.812    | 8     | 249 | Tanh          | ClipRound       |
| 3   | CSEEM  | flare   | 573.993  | 0.814    | 16    | 238 | Tanh          | ClipRound       |
| 3   | CSEEM  | flare   | 308.999  | 0.822    | 32    | 247 | Tanh          | ClipRound       |
| 3   | CSEEM  | flare   | 237.002  | 0.772    | 8     | 157 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | flare   | 62.998   | 0.82     | 16    | 293 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | flare   | 374.002  | 0.811    | 32    | 269 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | flare   | 615.0    | 0.821    | 8     | 270 | Relu          | ClipRound       |
| 3   | CSEEM  | flare   | 659.007  | 0.825    | 16    | 266 | Relu          | ClipRound       |
| 3   | CSEEM  | flare   | 741.0    | 0.826    | 32    | 260 | Relu          | ClipRound       |
| 3   | CSEEM  | flare   | 294.0    | 0.819    | 8     | 354 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | flare   | 487.999  | 0.817    | 16    | 273 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | flare   | 593.999  | 0.816    | 32    | 269 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | flare   | 172.0    | 0.817    | 8     | 248 | Sin           | ClipRound       |
| 3   | CSEEM  | flare   | 926.996  | 0.816    | 16    | 258 | Sin           | ClipRound       |
| 3   | CSEEM  | flare   | 653.999  | 0.82     | 32    | 279 | Sin           | ClipRound       |
| 4   | CSEEM  | flare   | 98.0     | 0.827    | 8     | 267 | Tanh          | ClipRound       |
| 4   | CSEEM  | flare   | 733.008  | 0.826    | 16    | 269 | Tanh          | ClipRound       |
| 4   | CSEEM  | flare   | 136.025  | 0.826    | 32    | 275 | Tanh          | ClipRound       |
| 4   | CSEEM  | flare   | 272.0    | 0.827    | 8     | 273 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | flare   | 105.11   | 0.821    | 16    | 258 | SoftRelu      | ClipRound       |

Table I.25: All CSEEM Results of classification problems (25/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | flare   | 898.0    | 0.824    | 32    | 281 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | flare   | 691.001  | 0.82     | 8     | 304 | Relu          | ClipRound       |
| 4   | CSEEM  | flare   | 253.999  | 0.808    | 16    | 237 | Relu          | ClipRound       |
| 4   | CSEEM  | flare   | 556.0    | 0.826    | 32    | 270 | Relu          | ClipRound       |
| 4   | CSEEM  | flare   | 816.999  | 0.811    | 8     | 243 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | flare   | 133.0    | 0.825    | 16    | 322 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | flare   | 899.0    | 0.826    | 32    | 272 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | flare   | 704.998  | 0.828    | 8     | 270 | Sin           | ClipRound       |
| 4   | CSEEM  | flare   | 774.996  | 0.826    | 16    | 257 | Sin           | ClipRound       |
| 4   | CSEEM  | flare   | 303.0    | 0.823    | 32    | 268 | Sin           | ClipRound       |
| 5   | CSEEM  | flare   | 255.002  | 0.82     | 8     | 267 | Tanh          | ClipRound       |
| 5   | CSEEM  | flare   | 274.999  | 0.821    | 16    | 267 | Tanh          | ClipRound       |
| 5   | CSEEM  | flare   | 166.001  | 0.816    | 32    | 254 | Tanh          | ClipRound       |
| 5   | CSEEM  | flare   | 11.999   | 0.812    | 8     | 286 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | flare   | 716.004  | 0.817    | 16    | 293 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | flare   | 506.001  | 0.823    | 32    | 304 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | flare   | 295.001  | 0.814    | 8     | 279 | Relu          | ClipRound       |
| 5   | CSEEM  | flare   | 634.993  | 0.818    | 16    | 280 | Relu          | ClipRound       |
| 5   | CSEEM  | flare   | 354.002  | 0.821    | 32    | 260 | Relu          | ClipRound       |
| 5   | CSEEM  | flare   | 603.999  | 0.811    | 8     | 264 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | flare   | 557.986  | 0.828    | 16    | 282 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | flare   | 974.999  | 0.818    | 32    | 275 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | flare   | 210.016  | 0.826    | 8     | 294 | Sin           | ClipRound       |
| 5   | CSEEM  | flare   | 882.993  | 0.811    | 16    | 235 | Sin           | ClipRound       |
| 5   | CSEEM  | flare   | 772.0    | 0.815    | 32    | 259 | Sin           | ClipRound       |
| 1   | CSEEM  | german  | 266.0    | 0.869    | 8     | 312 | Tanh          | ClipRound       |
| 1   | CSEEM  | german  | 856.0    | 0.892    | 16    | 382 | Tanh          | ClipRound       |
| 1   | CSEEM  | german  | 275.0    | 0.876    | 32    | 347 | Tanh          | ClipRound       |
| 1   | CSEEM  | german  | 443.001  | 0.93     | 8     | 528 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | german  | 858.009  | 0.885    | 16    | 342 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | german  | 439.001  | 0.879    | 32    | 302 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | german  | 933.0    | 0.898    | 8     | 389 | Relu          | ClipRound       |

Table I.26: All CSEEM Results of classification problems (26/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | german  | 286.0    | 0.903    | 16    | 390 | Relu          | ClipRound       |
| 1   | CSEEM  | german  | 204.001  | 0.897    | 32    | 348 | Relu          | ClipRound       |
| 1   | CSEEM  | german  | 114.999  | 0.881    | 8     | 315 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | german  | 264.0    | 0.89     | 16    | 386 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | german  | 943.0    | 0.906    | 32    | 405 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | german  | 82.0     | 0.9      | 8     | 515 | Sin           | ClipRound       |
| 1   | CSEEM  | german  | 386.48   | 0.845    | 16    | 375 | Sin           | ClipRound       |
| 1   | CSEEM  | german  | 754.0    | 0.875    | 32    | 417 | Sin           | ClipRound       |
| 2   | CSEEM  | german  | 634.001  | 0.859    | 8     | 354 | Tanh          | ClipRound       |
| 2   | CSEEM  | german  | 195.999  | 0.884    | 16    | 315 | Tanh          | ClipRound       |
| 2   | CSEEM  | german  | 200.0    | 0.894    | 32    | 367 | Tanh          | ClipRound       |
| 2   | CSEEM  | german  | 474.999  | 0.903    | 8     | 413 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | german  | 509.514  | 0.907    | 16    | 406 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | german  | 44.001   | 0.864    | 32    | 282 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | german  | 663.999  | 0.904    | 8     | 408 | Relu          | ClipRound       |
| 2   | CSEEM  | german  | 354.007  | 0.885    | 16    | 322 | Relu          | ClipRound       |
| 2   | CSEEM  | german  | 868.999  | 0.913    | 32    | 397 | Relu          | ClipRound       |
| 2   | CSEEM  | german  | 199.0    | 0.807    | 8     | 131 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | german  | 867.237  | 0.902    | 16    | 395 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | german  | 313.024  | 0.909    | 32    | 396 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | german  | 148.0    | 0.784    | 8     | 244 | Sin           | ClipRound       |
| 2   | CSEEM  | german  | 454.993  | 0.863    | 16    | 435 | Sin           | ClipRound       |
| 2   | CSEEM  | german  | 25.51    | 0.855    | 32    | 391 | Sin           | ClipRound       |
| 3   | CSEEM  | german  | 923.0    | 0.89     | 8     | 358 | Tanh          | ClipRound       |
| 3   | CSEEM  | german  | 252.517  | 0.855    | 16    | 277 | Tanh          | ClipRound       |
| 3   | CSEEM  | german  | 869.0    | 0.904    | 32    | 417 | Tanh          | ClipRound       |
| 3   | CSEEM  | german  | 731.999  | 0.895    | 8     | 402 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | german  | 985.008  | 0.894    | 16    | 338 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | german  | 583.062  | 0.88     | 32    | 282 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | german  | 292.0    | 0.935    | 8     | 469 | Relu          | ClipRound       |
| 3   | CSEEM  | german  | 322.142  | 0.885    | 16    | 305 | Relu          | ClipRound       |
| 3   | CSEEM  | german  | 474.0    | 0.897    | 32    | 341 | Relu          | ClipRound       |

Table I.27: All CSEEM Results of classification problems (27/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | german  | 660.001  | 0.85     | 8     | 251 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | german  | 727.008  | 0.873    | 16    | 311 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | german  | 375.999  | 0.914    | 32    | 459 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | german  | 221.999  | 0.868    | 8     | 459 | Sin           | ClipRound       |
| 3   | CSEEM  | german  | 349.004  | 0.845    | 16    | 387 | Sin           | ClipRound       |
| 3   | CSEEM  | german  | 866.001  | 0.872    | 32    | 458 | Sin           | ClipRound       |
| 4   | CSEEM  | german  | 694.002  | 0.875    | 8     | 349 | Tanh          | ClipRound       |
| 4   | CSEEM  | german  | 65.001   | 0.892    | 16    | 369 | Tanh          | ClipRound       |
| 4   | CSEEM  | german  | 24.999   | 0.894    | 32    | 374 | Tanh          | ClipRound       |
| 4   | CSEEM  | german  | 311.001  | 0.842    | 8     | 208 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | german  | 319.0    | 0.897    | 16    | 360 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | german  | 595.004  | 0.917    | 32    | 406 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | german  | 643.999  | 0.911    | 8     | 434 | Relu          | ClipRound       |
| 4   | CSEEM  | german  | 527.0    | 0.909    | 16    | 418 | Relu          | ClipRound       |
| 4   | CSEEM  | german  | 903.0    | 0.9      | 32    | 366 | Relu          | ClipRound       |
| 4   | CSEEM  | german  | 93.0     | 0.845    | 8     | 223 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | german  | 638.001  | 0.879    | 16    | 291 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | german  | 712.999  | 0.906    | 32    | 418 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | german  | 413.002  | 0.903    | 8     | 516 | Sin           | ClipRound       |
| 4   | CSEEM  | german  | 366.001  | 0.898    | 16    | 473 | Sin           | ClipRound       |
| 4   | CSEEM  | german  | 127.0    | 0.87     | 32    | 426 | Sin           | ClipRound       |
| 5   | CSEEM  | german  | 461.0    | 0.843    | 8     | 270 | Tanh          | ClipRound       |
| 5   | CSEEM  | german  | 813.001  | 0.904    | 16    | 425 | Tanh          | ClipRound       |
| 5   | CSEEM  | german  | 431.999  | 0.9      | 32    | 394 | Tanh          | ClipRound       |
| 5   | CSEEM  | german  | 240.0    | 0.825    | 8     | 173 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | german  | 243.355  | 0.87     | 16    | 294 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | german  | 573.003  | 0.903    | 32    | 389 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | german  | 736.0    | 0.887    | 8     | 370 | Relu          | ClipRound       |
| 5   | CSEEM  | german  | 317.994  | 0.897    | 16    | 350 | Relu          | ClipRound       |
| 5   | CSEEM  | german  | 245.001  | 0.914    | 32    | 377 | Relu          | ClipRound       |
| 5   | CSEEM  | german  | 734.0    | 0.876    | 8     | 394 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | german  | 391.009  | 0.892    | 16    | 411 | Sigmoid       | ClipRound       |

Table I.28: All CSEEM Results of classification problems (28/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | german  | 28.0     | 0.886    | 32    | 312 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | german  | 354.001  | 0.855    | 8     | 425 | Sin           | ClipRound       |
| 5   | CSEEM  | german  | 715.008  | 0.835    | 16    | 351 | Sin           | ClipRound       |
| 5   | CSEEM  | german  | 871.001  | 0.899    | 32    | 483 | Sin           | ClipRound       |
| 1   | CSEEM  | glass   | 92.999   | 0.79     | 8     | 65  | Tanh          | ClipRound       |
| 1   | CSEEM  | glass   | 121.998  | 0.874    | 16    | 93  | Tanh          | ClipRound       |
| 1   | CSEEM  | glass   | 732.001  | 0.86     | 32    | 84  | Tanh          | ClipRound       |
| 1   | CSEEM  | glass   | 66.999   | 0.86     | 8     | 89  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | glass   | 297.001  | 0.864    | 16    | 86  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | glass   | 582.999  | 0.869    | 32    | 87  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | glass   | 82.0     | 0.864    | 8     | 97  | Relu          | ClipRound       |
| 1   | CSEEM  | glass   | 230.99   | 0.864    | 16    | 95  | Relu          | ClipRound       |
| 1   | CSEEM  | glass   | 675.0    | 0.836    | 32    | 77  | Relu          | ClipRound       |
| 1   | CSEEM  | glass   | 129.0    | 0.832    | 8     | 76  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | glass   | 270.989  | 0.841    | 16    | 73  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | glass   | 416.0    | 0.827    | 32    | 68  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | glass   | 100.997  | 0.841    | 8     | 82  | Sin           | ClipRound       |
| 1   | CSEEM  | glass   | 188.989  | 0.855    | 16    | 95  | Sin           | ClipRound       |
| 1   | CSEEM  | glass   | 461.0    | 0.86     | 32    | 84  | Sin           | ClipRound       |
| 2   | CSEEM  | glass   | 6.0      | 0.631    | 8     | 33  | Tanh          | ClipRound       |
| 2   | CSEEM  | glass   | 96.996   | 0.827    | 16    | 70  | Tanh          | ClipRound       |
| 2   | CSEEM  | glass   | 426.999  | 0.864    | 32    | 93  | Tanh          | ClipRound       |
| 2   | CSEEM  | glass   | 8.0      | 0.678    | 8     | 45  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | glass   | 155.001  | 0.874    | 16    | 83  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | glass   | 284.999  | 0.827    | 32    | 74  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | glass   | 63.0     | 0.794    | 8     | 65  | Relu          | ClipRound       |
| 2   | CSEEM  | glass   | 75.99    | 0.804    | 16    | 64  | Relu          | ClipRound       |
| 2   | CSEEM  | glass   | 321.001  | 0.836    | 32    | 84  | Relu          | ClipRound       |
| 2   | CSEEM  | glass   | 143.999  | 0.86     | 8     | 101 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | glass   | 252.005  | 0.869    | 16    | 81  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | glass   | 412.999  | 0.827    | 32    | 77  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | glass   | 39.999   | 0.888    | 8     | 102 | Sin           | ClipRound       |

Table I.29: All CSEEM Results of classification problems (29/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | glass   | 417.998  | 0.846    | 16    | 88  | Sin           | ClipRound       |
| 2   | CSEEM  | glass   | 426.999  | 0.864    | 32    | 87  | Sin           | ClipRound       |
| 3   | CSEEM  | glass   | 141.999  | 0.832    | 8     | 79  | Tanh          | ClipRound       |
| 3   | CSEEM  | glass   | 232.991  | 0.846    | 16    | 81  | Tanh          | ClipRound       |
| 3   | CSEEM  | glass   | 256.999  | 0.841    | 32    | 88  | Tanh          | ClipRound       |
| 3   | CSEEM  | glass   | 88.999   | 0.836    | 8     | 76  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | glass   | 66.997   | 0.855    | 16    | 85  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | glass   | 365.002  | 0.883    | 32    | 94  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | glass   | 41.999   | 0.785    | 8     | 67  | Relu          | ClipRound       |
| 3   | CSEEM  | glass   | 71.992   | 0.808    | 16    | 73  | Relu          | ClipRound       |
| 3   | CSEEM  | glass   | 428.996  | 0.864    | 32    | 79  | Relu          | ClipRound       |
| 3   | CSEEM  | glass   | 201.998  | 0.855    | 8     | 84  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | glass   | 40.993   | 0.827    | 16    | 80  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | glass   | 156.999  | 0.799    | 32    | 62  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | glass   | 69.0     | 0.771    | 8     | 67  | Sin           | ClipRound       |
| 3   | CSEEM  | glass   | 97.993   | 0.85     | 16    | 87  | Sin           | ClipRound       |
| 3   | CSEEM  | glass   | 431.0    | 0.836    | 32    | 75  | Sin           | ClipRound       |
| 4   | CSEEM  | glass   | 89.999   | 0.864    | 8     | 98  | Tanh          | ClipRound       |
| 4   | CSEEM  | glass   | 379.993  | 0.855    | 16    | 89  | Tanh          | ClipRound       |
| 4   | CSEEM  | glass   | 156.998  | 0.841    | 32    | 79  | Tanh          | ClipRound       |
| 4   | CSEEM  | glass   | 174.0    | 0.864    | 8     | 91  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | glass   | 215.001  | 0.85     | 16    | 83  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | glass   | 460.999  | 0.822    | 32    | 72  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | glass   | 53.0     | 0.832    | 8     | 86  | Relu          | ClipRound       |
| 4   | CSEEM  | glass   | 152.001  | 0.846    | 16    | 85  | Relu          | ClipRound       |
| 4   | CSEEM  | glass   | 400.999  | 0.822    | 32    | 77  | Relu          | ClipRound       |
| 4   | CSEEM  | glass   | 91.998   | 0.836    | 8     | 87  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | glass   | 183.0    | 0.879    | 16    | 90  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | glass   | 552.0    | 0.85     | 32    | 74  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | glass   | 97.0     | 0.766    | 8     | 71  | Sin           | ClipRound       |
| 4   | CSEEM  | glass   | 191.999  | 0.846    | 16    | 77  | Sin           | ClipRound       |
| 4   | CSEEM  | glass   | 428.999  | 0.846    | 32    | 77  | Sin           | ClipRound       |

Table I.30: All CSEEM Results of classification problems (30/83).

| Run | Method | Dataset  | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|----------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | glass    | 49.999   | 0.85     | 8     | 96  | Tanh          | ClipRound       |
| 5   | CSEEM  | glass    | 229.999  | 0.841    | 16    | 76  | Tanh          | ClipRound       |
| 5   | CSEEM  | glass    | 192.998  | 0.827    | 32    | 68  | Tanh          | ClipRound       |
| 5   | CSEEM  | glass    | 109.999  | 0.864    | 8     | 82  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | glass    | 156.001  | 0.874    | 16    | 94  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | glass    | 358.0    | 0.822    | 32    | 81  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | glass    | 74.0     | 0.879    | 8     | 81  | Relu          | ClipRound       |
| 5   | CSEEM  | glass    | 294.065  | 0.86     | 16    | 87  | Relu          | ClipRound       |
| 5   | CSEEM  | glass    | 292.998  | 0.855    | 32    | 76  | Relu          | ClipRound       |
| 5   | CSEEM  | glass    | 51.999   | 0.776    | 8     | 65  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | glass    | 71.993   | 0.832    | 16    | 81  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | glass    | 559.0    | 0.86     | 32    | 74  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | glass    | 87.0     | 0.729    | 8     | 65  | Sin           | ClipRound       |
| 5   | CSEEM  | glass    | 235.992  | 0.836    | 16    | 85  | Sin           | ClipRound       |
| 5   | CSEEM  | glass    | 618.998  | 0.864    | 32    | 92  | Sin           | ClipRound       |
| 1   | CSEEM  | haberman | 178.0    | 0.873    | 8     | 94  | Tanh          | ClipRound       |
| 1   | CSEEM  | haberman | 331.0    | 0.876    | 16    | 95  | Tanh          | ClipRound       |
| 1   | CSEEM  | haberman | 460.998  | 0.882    | 32    | 95  | Tanh          | ClipRound       |
| 1   | CSEEM  | haberman | 172.999  | 0.886    | 8     | 105 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | haberman | 255.989  | 0.866    | 16    | 93  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | haberman | 19.998   | 0.892    | 32    | 102 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | haberman | 135.0    | 0.837    | 8     | 65  | Relu          | ClipRound       |
| 1   | CSEEM  | haberman | 451.025  | 0.873    | 16    | 105 | Relu          | ClipRound       |
| 1   | CSEEM  | haberman | 680.999  | 0.889    | 32    | 97  | Relu          | ClipRound       |
| 1   | CSEEM  | haberman | 248.999  | 0.889    | 8     | 116 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | haberman | 433.997  | 0.869    | 16    | 89  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | haberman | 958.999  | 0.902    | 32    | 115 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | haberman | 17.0     | 0.814    | 8     | 54  | Sin           | ClipRound       |
| 1   | CSEEM  | haberman | 208.999  | 0.84     | 16    | 71  | Sin           | ClipRound       |
| 1   | CSEEM  | haberman | 843.0    | 0.882    | 32    | 104 | Sin           | ClipRound       |
| 2   | CSEEM  | haberman | 381.999  | 0.863    | 8     | 92  | Tanh          | ClipRound       |
| 2   | CSEEM  | haberman | 343.999  | 0.879    | 16    | 103 | Tanh          | ClipRound       |

Table I.31: All CSEEM Results of classification problems (31/83).

| Run | Method | Dataset  | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|----------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | haberman | 617.0    | 0.899    | 32    | 109 | Tanh          | ClipRound       |
| 2   | CSEEM  | haberman | 196.999  | 0.863    | 8     | 76  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | haberman | 298.008  | 0.886    | 16    | 123 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | haberman | 773.0    | 0.866    | 32    | 92  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | haberman | 131.999  | 0.892    | 8     | 108 | Relu          | ClipRound       |
| 2   | CSEEM  | haberman | 363.014  | 0.895    | 16    | 117 | Relu          | ClipRound       |
| 2   | CSEEM  | haberman | 593.999  | 0.889    | 32    | 114 | Relu          | ClipRound       |
| 2   | CSEEM  | haberman | 26.0     | 0.814    | 8     | 57  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | haberman | 420.001  | 0.876    | 16    | 98  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | haberman | 580.999  | 0.879    | 32    | 99  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | haberman | 85.999   | 0.833    | 8     | 91  | Sin           | ClipRound       |
| 2   | CSEEM  | haberman | 347.003  | 0.866    | 16    | 92  | Sin           | ClipRound       |
| 2   | CSEEM  | haberman | 161.998  | 0.889    | 32    | 110 | Sin           | ClipRound       |
| 3   | CSEEM  | haberman | 245.999  | 0.879    | 8     | 106 | Tanh          | ClipRound       |
| 3   | CSEEM  | haberman | 87.002   | 0.853    | 16    | 86  | Tanh          | ClipRound       |
| 3   | CSEEM  | haberman | 886.999  | 0.889    | 32    | 109 | Tanh          | ClipRound       |
| 3   | CSEEM  | haberman | 214.0    | 0.876    | 8     | 91  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | haberman | 845.0    | 0.886    | 16    | 99  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | haberman | 320.998  | 0.866    | 32    | 93  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | haberman | 245.999  | 0.85     | 8     | 70  | Relu          | ClipRound       |
| 3   | CSEEM  | haberman | 423.991  | 0.879    | 16    | 101 | Relu          | ClipRound       |
| 3   | CSEEM  | haberman | 293.0    | 0.902    | 32    | 127 | Relu          | ClipRound       |
| 3   | CSEEM  | haberman | 100.999  | 0.882    | 8     | 130 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | haberman | 483.0    | 0.866    | 16    | 96  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | haberman | 647.999  | 0.876    | 32    | 102 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | haberman | 64.999   | 0.843    | 8     | 96  | Sin           | ClipRound       |
| 3   | CSEEM  | haberman | 257.998  | 0.846    | 16    | 72  | Sin           | ClipRound       |
| 3   | CSEEM  | haberman | 306.001  | 0.85     | 32    | 71  | Sin           | ClipRound       |
| 4   | CSEEM  | haberman | 122.002  | 0.817    | 8     | 64  | Tanh          | ClipRound       |
| 4   | CSEEM  | haberman | 495.998  | 0.882    | 16    | 97  | Tanh          | ClipRound       |
| 4   | CSEEM  | haberman | 610.0    | 0.886    | 32    | 106 | Tanh          | ClipRound       |
| 4   | CSEEM  | haberman | 209.999  | 0.892    | 8     | 106 | SoftRelu      | ClipRound       |

Table I.32: All CSEEM Results of classification problems (32/83).



| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | haberman   | 348.004  | 0.886    | 16    | 106 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | haberman   | 765.999  | 0.882    | 32    | 100 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | haberman   | 152.999  | 0.846    | 8     | 89  | Relu          | ClipRound       |
| 4   | CSEEM  | haberman   | 293.998  | 0.892    | 16    | 106 | Relu          | ClipRound       |
| 4   | CSEEM  | haberman   | 569.999  | 0.892    | 32    | 106 | Relu          | ClipRound       |
| 4   | CSEEM  | haberman   | 347.001  | 0.869    | 8     | 104 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | haberman   | 771.0    | 0.882    | 16    | 102 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | haberman   | 792.999  | 0.899    | 32    | 117 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | haberman   | 103.0    | 0.859    | 8     | 75  | Sin           | ClipRound       |
| 4   | CSEEM  | haberman   | 479.999  | 0.873    | 16    | 106 | Sin           | ClipRound       |
| 4   | CSEEM  | haberman   | 789.999  | 0.879    | 32    | 110 | Sin           | ClipRound       |
| 5   | CSEEM  | haberman   | 54.0     | 0.843    | 8     | 77  | Tanh          | ClipRound       |
| 5   | CSEEM  | haberman   | 275.0    | 0.873    | 16    | 95  | Tanh          | ClipRound       |
| 5   | CSEEM  | haberman   | 742.999  | 0.873    | 32    | 84  | Tanh          | ClipRound       |
| 5   | CSEEM  | haberman   | 136.997  | 0.869    | 8     | 93  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | haberman   | 368.007  | 0.879    | 16    | 99  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | haberman   | 606.0    | 0.863    | 32    | 85  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | haberman   | 68.999   | 0.879    | 8     | 105 | Relu          | ClipRound       |
| 5   | CSEEM  | haberman   | 172.006  | 0.853    | 16    | 87  | Relu          | ClipRound       |
| 5   | CSEEM  | haberman   | 766.999  | 0.873    | 32    | 91  | Relu          | ClipRound       |
| 5   | CSEEM  | haberman   | 334.999  | 0.869    | 8     | 101 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | haberman   | 425.005  | 0.866    | 16    | 89  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | haberman   | 819.998  | 0.889    | 32    | 109 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | haberman   | 298.999  | 0.85     | 8     | 76  | Sin           | ClipRound       |
| 5   | CSEEM  | haberman   | 152.992  | 0.84     | 16    | 69  | Sin           | ClipRound       |
| 5   | CSEEM  | haberman   | 631.0    | 0.882    | 32    | 110 | Sin           | ClipRound       |
| 1   | CSEEM  | hayes_roth | 23.0     | 0.894    | 8     | 60  | Tanh          | ClipRound       |
| 1   | CSEEM  | hayes_roth | 52.999   | 0.894    | 16    | 49  | Tanh          | ClipRound       |
| 1   | CSEEM  | hayes_roth | 91.001   | 0.831    | 32    | 38  | Tanh          | ClipRound       |
| 1   | CSEEM  | hayes_roth | 60.0     | 0.875    | 8     | 55  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | hayes_roth | 35.0     | 0.863    | 16    | 54  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | hayes_roth | 124.0    | 0.881    | 32    | 43  | SoftRelu      | ClipRound       |

Table I.33: All CSEEM Results of classification problems (33/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | hayes_roth | 32.999   | 0.9      | 8     | 47  | Relu          | ClipRound       |
| 1   | CSEEM  | hayes_roth | 23.998   | 0.869    | 16    | 39  | Relu          | ClipRound       |
| 1   | CSEEM  | hayes_roth | 148.0    | 0.881    | 32    | 50  | Relu          | ClipRound       |
| 1   | CSEEM  | hayes_roth | 53.999   | 0.85     | 8     | 34  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | hayes_roth | 48.004   | 0.844    | 16    | 40  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | hayes_roth | 138.999  | 0.881    | 32    | 48  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | hayes_roth | 39.0     | 0.838    | 8     | 44  | Sin           | ClipRound       |
| 1   | CSEEM  | hayes_roth | 47.997   | 0.856    | 16    | 43  | Sin           | ClipRound       |
| 1   | CSEEM  | hayes_roth | 146.0    | 0.819    | 32    | 47  | Sin           | ClipRound       |
| 2   | CSEEM  | hayes_roth | 27.0     | 0.85     | 8     | 48  | Tanh          | ClipRound       |
| 2   | CSEEM  | hayes_roth | 53.993   | 0.856    | 16    | 55  | Tanh          | ClipRound       |
| 2   | CSEEM  | hayes_roth | 202.998  | 0.856    | 32    | 47  | Tanh          | ClipRound       |
| 2   | CSEEM  | hayes_roth | 39.0     | 0.875    | 8     | 58  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | hayes_roth | 99.996   | 0.838    | 16    | 47  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | hayes_roth | 103.999  | 0.85     | 32    | 46  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | hayes_roth | 5.0      | 0.762    | 8     | 24  | Relu          | ClipRound       |
| 2   | CSEEM  | hayes_roth | 27.005   | 0.863    | 16    | 45  | Relu          | ClipRound       |
| 2   | CSEEM  | hayes_roth | 203.999  | 0.856    | 32    | 49  | Relu          | ClipRound       |
| 2   | CSEEM  | hayes_roth | 27.998   | 0.85     | 8     | 40  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | hayes_roth | 95.001   | 0.9      | 16    | 49  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | hayes_roth | 202.999  | 0.875    | 32    | 50  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | hayes_roth | 24.999   | 0.894    | 8     | 49  | Sin           | ClipRound       |
| 2   | CSEEM  | hayes_roth | 51.999   | 0.912    | 16    | 57  | Sin           | ClipRound       |
| 2   | CSEEM  | hayes_roth | 139.001  | 0.881    | 32    | 54  | Sin           | ClipRound       |
| 3   | CSEEM  | hayes_roth | 48.999   | 0.863    | 8     | 45  | Tanh          | ClipRound       |
| 3   | CSEEM  | hayes_roth | 65.01    | 0.869    | 16    | 46  | Tanh          | ClipRound       |
| 3   | CSEEM  | hayes_roth | 117.0    | 0.9      | 32    | 54  | Tanh          | ClipRound       |
| 3   | CSEEM  | hayes_roth | 31.0     | 0.875    | 8     | 37  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | hayes_roth | 44.991   | 0.863    | 16    | 37  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | hayes_roth | 94.518   | 0.863    | 32    | 46  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | hayes_roth | 54.0     | 0.812    | 8     | 36  | Relu          | ClipRound       |
| 3   | CSEEM  | hayes_roth | 64.005   | 0.838    | 16    | 40  | Relu          | ClipRound       |

Table I.34: All CSEEM Results of classification problems (34/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | hayes_roth | 141.0    | 0.887    | 32    | 55  | Relu          | ClipRound       |
| 3   | CSEEM  | hayes_roth | 45.0     | 0.85     | 8     | 43  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | hayes_roth | 56.997   | 0.906    | 16    | 50  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | hayes_roth | 196.0    | 0.894    | 32    | 42  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | hayes_roth | 73.999   | 0.863    | 8     | 49  | Sin           | ClipRound       |
| 3   | CSEEM  | hayes_roth | 121.998  | 0.906    | 16    | 55  | Sin           | ClipRound       |
| 3   | CSEEM  | hayes_roth | 141.005  | 0.881    | 32    | 46  | Sin           | ClipRound       |
| 4   | CSEEM  | hayes_roth | 20.997   | 0.806    | 8     | 50  | Tanh          | ClipRound       |
| 4   | CSEEM  | hayes_roth | 36.0     | 0.869    | 16    | 54  | Tanh          | ClipRound       |
| 4   | CSEEM  | hayes_roth | 69.999   | 0.887    | 32    | 50  | Tanh          | ClipRound       |
| 4   | CSEEM  | hayes_roth | 32.999   | 0.881    | 8     | 43  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | hayes_roth | 64.993   | 0.869    | 16    | 46  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | hayes_roth | 69.999   | 0.863    | 32    | 43  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | hayes_roth | 15.999   | 0.819    | 8     | 41  | Relu          | ClipRound       |
| 4   | CSEEM  | hayes_roth | 34.999   | 0.856    | 16    | 35  | Relu          | ClipRound       |
| 4   | CSEEM  | hayes_roth | 241.998  | 0.881    | 32    | 47  | Relu          | ClipRound       |
| 4   | CSEEM  | hayes_roth | 19.997   | 0.856    | 8     | 48  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | hayes_roth | 40.999   | 0.881    | 16    | 51  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | hayes_roth | 72.001   | 0.806    | 32    | 42  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | hayes_roth | 38.507   | 0.85     | 8     | 44  | Sin           | ClipRound       |
| 4   | CSEEM  | hayes_roth | 43.51    | 0.894    | 16    | 56  | Sin           | ClipRound       |
| 4   | CSEEM  | hayes_roth | 128.998  | 0.869    | 32    | 53  | Sin           | ClipRound       |
| 5   | CSEEM  | hayes_roth | 13.998   | 0.825    | 8     | 45  | Tanh          | ClipRound       |
| 5   | CSEEM  | hayes_roth | 68.0     | 0.881    | 16    | 58  | Tanh          | ClipRound       |
| 5   | CSEEM  | hayes_roth | 114.998  | 0.875    | 32    | 44  | Tanh          | ClipRound       |
| 5   | CSEEM  | hayes_roth | 13.0     | 0.906    | 8     | 50  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | hayes_roth | 102.998  | 0.881    | 16    | 48  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | hayes_roth | 182.0    | 0.894    | 32    | 48  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | hayes_roth | 9.998    | 0.838    | 8     | 27  | Relu          | ClipRound       |
| 5   | CSEEM  | hayes_roth | 77.002   | 0.831    | 16    | 43  | Relu          | ClipRound       |
| 5   | CSEEM  | hayes_roth | 79.998   | 0.863    | 32    | 43  | Relu          | ClipRound       |
| 5   | CSEEM  | hayes_roth | 26.0     | 0.875    | 8     | 39  | Sigmoid       | ClipRound       |

Table I.35: All CSEEM Results of classification problems (35/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | hayes_roth | 90.992   | 0.906    | 16    | 48  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | hayes_roth | 102.001  | 0.863    | 32    | 33  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | hayes_roth | 13.999   | 0.869    | 8     | 47  | Sin           | ClipRound       |
| 5   | CSEEM  | hayes_roth | 70.993   | 0.856    | 16    | 44  | Sin           | ClipRound       |
| 5   | CSEEM  | hayes_roth | 111.999  | 0.856    | 32    | 46  | Sin           | ClipRound       |
| 1   | CSEEM  | heart      | 155.999  | 0.915    | 8     | 82  | Tanh          | ClipRound       |
| 1   | CSEEM  | heart      | 170.0    | 0.907    | 16    | 56  | Tanh          | ClipRound       |
| 1   | CSEEM  | heart      | 648.999  | 0.915    | 32    | 64  | Tanh          | ClipRound       |
| 1   | CSEEM  | heart      | 148.998  | 0.933    | 8     | 109 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | heart      | 156.008  | 0.926    | 16    | 85  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | heart      | 861.999  | 0.926    | 32    | 82  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | heart      | 104.999  | 0.937    | 8     | 98  | Relu          | ClipRound       |
| 1   | CSEEM  | heart      | 451.999  | 0.922    | 16    | 76  | Relu          | ClipRound       |
| 1   | CSEEM  | heart      | 176.0    | 0.911    | 32    | 79  | Relu          | ClipRound       |
| 1   | CSEEM  | heart      | 88.999   | 0.907    | 8     | 66  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | heart      | 394.993  | 0.915    | 16    | 78  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | heart      | 395.999  | 0.941    | 32    | 97  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | heart      | 43.0     | 0.83     | 8     | 78  | Sin           | ClipRound       |
| 1   | CSEEM  | heart      | 93.0     | 0.863    | 16    | 129 | Sin           | ClipRound       |
| 1   | CSEEM  | heart      | 338.996  | 0.848    | 32    | 110 | Sin           | ClipRound       |
| 2   | CSEEM  | heart      | 207.999  | 0.933    | 8     | 92  | Tanh          | ClipRound       |
| 2   | CSEEM  | heart      | 322.985  | 0.922    | 16    | 72  | Tanh          | ClipRound       |
| 2   | CSEEM  | heart      | 692.999  | 0.915    | 32    | 59  | Tanh          | ClipRound       |
| 2   | CSEEM  | heart      | 81.999   | 0.911    | 8     | 76  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | heart      | 225.007  | 0.937    | 16    | 92  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | heart      | 250.0    | 0.911    | 32    | 58  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | heart      | 13.001   | 0.87     | 8     | 44  | Relu          | ClipRound       |
| 2   | CSEEM  | heart      | 483.001  | 0.915    | 16    | 65  | Relu          | ClipRound       |
| 2   | CSEEM  | heart      | 211.001  | 0.915    | 32    | 65  | Relu          | ClipRound       |
| 2   | CSEEM  | heart      | 119.999  | 0.937    | 8     | 97  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | heart      | 211.996  | 0.9      | 16    | 67  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | heart      | 491.999  | 0.937    | 32    | 80  | Sigmoid       | ClipRound       |

Table I.36: All CSEEM Results of classification problems (36/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | heart   | 110.998  | 0.819    | 8     | 109 | Sin           | ClipRound       |
| 2   | CSEEM  | heart   | 319.996  | 0.907    | 16    | 129 | Sin           | ClipRound       |
| 2   | CSEEM  | heart   | 671.998  | 0.863    | 32    | 85  | Sin           | ClipRound       |
| 3   | CSEEM  | heart   | 76.999   | 0.893    | 8     | 70  | Tanh          | ClipRound       |
| 3   | CSEEM  | heart   | 79.995   | 0.893    | 16    | 62  | Tanh          | ClipRound       |
| 3   | CSEEM  | heart   | 276.0    | 0.915    | 32    | 76  | Tanh          | ClipRound       |
| 3   | CSEEM  | heart   | 261.998  | 0.948    | 8     | 94  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | heart   | 259.993  | 0.904    | 16    | 70  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | heart   | 531.509  | 0.944    | 32    | 92  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | heart   | 81.999   | 0.904    | 8     | 59  | Relu          | ClipRound       |
| 3   | CSEEM  | heart   | 119.0    | 0.904    | 16    | 42  | Relu          | ClipRound       |
| 3   | CSEEM  | heart   | 656.999  | 0.915    | 32    | 63  | Relu          | ClipRound       |
| 3   | CSEEM  | heart   | 162.997  | 0.941    | 8     | 86  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | heart   | 406.991  | 0.941    | 16    | 82  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | heart   | 450.999  | 0.93     | 32    | 87  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | heart   | 281.0    | 0.859    | 8     | 82  | Sin           | ClipRound       |
| 3   | CSEEM  | heart   | 286.992  | 0.859    | 16    | 112 | Sin           | ClipRound       |
| 3   | CSEEM  | heart   | 569.998  | 0.881    | 32    | 123 | Sin           | ClipRound       |
| 4   | CSEEM  | heart   | 53.999   | 0.915    | 8     | 85  | Tanh          | ClipRound       |
| 4   | CSEEM  | heart   | 387.001  | 0.933    | 16    | 85  | Tanh          | ClipRound       |
| 4   | CSEEM  | heart   | 188.999  | 0.919    | 32    | 80  | Tanh          | ClipRound       |
| 4   | CSEEM  | heart   | 204.999  | 0.915    | 8     | 76  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | heart   | 363.998  | 0.948    | 16    | 103 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | heart   | 516.002  | 0.933    | 32    | 83  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | heart   | 129.999  | 0.907    | 8     | 60  | Relu          | ClipRound       |
| 4   | CSEEM  | heart   | 143.999  | 0.915    | 16    | 71  | Relu          | ClipRound       |
| 4   | CSEEM  | heart   | 287.998  | 0.926    | 32    | 75  | Relu          | ClipRound       |
| 4   | CSEEM  | heart   | 30.999   | 0.911    | 8     | 56  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | heart   | 236.0    | 0.963    | 16    | 102 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | heart   | 742.999  | 0.956    | 32    | 93  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | heart   | 105.999  | 0.778    | 8     | 86  | Sin           | ClipRound       |
| 4   | CSEEM  | heart   | 439.999  | 0.915    | 16    | 129 | Sin           | ClipRound       |

Table I.37: All CSEEM Results of classification problems (37/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | heart     | 924.0    | 0.919    | 32    | 128 | Sin           | ClipRound       |
| 5   | CSEEM  | heart     | 169.999  | 0.922    | 8     | 77  | Tanh          | ClipRound       |
| 5   | CSEEM  | heart     | 269.0    | 0.933    | 16    | 81  | Tanh          | ClipRound       |
| 5   | CSEEM  | heart     | 788.999  | 0.922    | 32    | 63  | Tanh          | ClipRound       |
| 5   | CSEEM  | heart     | 48.0     | 0.867    | 8     | 32  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | heart     | 176.998  | 0.944    | 16    | 101 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | heart     | 798.998  | 0.93     | 32    | 80  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | heart     | 24.998   | 0.9      | 8     | 56  | Relu          | ClipRound       |
| 5   | CSEEM  | heart     | 205.006  | 0.911    | 16    | 65  | Relu          | ClipRound       |
| 5   | CSEEM  | heart     | 267.0    | 0.915    | 32    | 48  | Relu          | ClipRound       |
| 5   | CSEEM  | heart     | 94.999   | 0.9      | 8     | 59  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | heart     | 450.999  | 0.926    | 16    | 78  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | heart     | 341.0    | 0.952    | 32    | 81  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | heart     | 71.0     | 0.781    | 8     | 75  | Sin           | ClipRound       |
| 5   | CSEEM  | heart     | 131.992  | 0.87     | 16    | 113 | Sin           | ClipRound       |
| 5   | CSEEM  | heart     | 202.999  | 0.896    | 32    | 112 | Sin           | ClipRound       |
| 1   | CSEEM  | hepatitis | 11.999   | 0.95     | 8     | 14  | Tanh          | ClipRound       |
| 1   | CSEEM  | hepatitis | 24.999   | 0.95     | 16    | 13  | Tanh          | ClipRound       |
| 1   | CSEEM  | hepatitis | 35.999   | 0.95     | 32    | 23  | Tanh          | ClipRound       |
| 1   | CSEEM  | hepatitis | 9.002    | 0.912    | 8     | 17  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | hepatitis | 21.0     | 0.95     | 16    | 17  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | hepatitis | 36.999   | 0.963    | 32    | 20  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | hepatitis | 5.999    | 0.887    | 8     | 7   | Relu          | ClipRound       |
| 1   | CSEEM  | hepatitis | 19.993   | 0.988    | 16    | 25  | Relu          | ClipRound       |
| 1   | CSEEM  | hepatitis | 72.999   | 0.975    | 32    | 22  | Relu          | ClipRound       |
| 1   | CSEEM  | hepatitis | 5.0      | 0.912    | 8     | 15  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | hepatitis | 22.0     | 0.963    | 16    | 19  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | hepatitis | 44.997   | 0.95     | 32    | 12  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | hepatitis | 11.0     | 0.938    | 8     | 18  | Sin           | ClipRound       |
| 1   | CSEEM  | hepatitis | 24.999   | 0.938    | 16    | 26  | Sin           | ClipRound       |
| 1   | CSEEM  | hepatitis | 45.0     | 0.925    | 32    | 13  | Sin           | ClipRound       |
| 2   | CSEEM  | hepatitis | 10.999   | 0.938    | 8     | 13  | Tanh          | ClipRound       |

Table I.38: All CSEEM Results of classification problems (38/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | hepatitis | 33.999   | 0.95     | 16    | 21  | Tanh          | ClipRound       |
| 2   | CSEEM  | hepatitis | 39.0     | 0.963    | 32    | 21  | Tanh          | ClipRound       |
| 2   | CSEEM  | hepatitis | 14.999   | 0.938    | 8     | 25  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | hepatitis | 26.006   | 0.963    | 16    | 24  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | hepatitis | 56.001   | 0.963    | 32    | 17  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | hepatitis | 8.0      | 0.912    | 8     | 20  | Relu          | ClipRound       |
| 2   | CSEEM  | hepatitis | 11.997   | 0.95     | 16    | 19  | Relu          | ClipRound       |
| 2   | CSEEM  | hepatitis | 50.001   | 0.963    | 32    | 23  | Relu          | ClipRound       |
| 2   | CSEEM  | hepatitis | 5.001    | 0.912    | 8     | 16  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | hepatitis | 30.998   | 0.988    | 16    | 26  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | hepatitis | 43.996   | 0.95     | 32    | 15  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | hepatitis | 12.999   | 0.925    | 8     | 18  | Sin           | ClipRound       |
| 2   | CSEEM  | hepatitis | 21.996   | 0.963    | 16    | 33  | Sin           | ClipRound       |
| 2   | CSEEM  | hepatitis | 46.998   | 0.938    | 32    | 22  | Sin           | ClipRound       |
| 3   | CSEEM  | hepatitis | 7.0      | 0.925    | 8     | 9   | Tanh          | ClipRound       |
| 3   | CSEEM  | hepatitis | 19.007   | 0.988    | 16    | 23  | Tanh          | ClipRound       |
| 3   | CSEEM  | hepatitis | 69.999   | 0.963    | 32    | 10  | Tanh          | ClipRound       |
| 3   | CSEEM  | hepatitis | 17.0     | 0.925    | 8     | 17  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | hepatitis | 8.999    | 0.925    | 16    | 7   | SoftRelu      | ClipRound       |
| 3   | CSEEM  | hepatitis | 43.996   | 0.975    | 32    | 27  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | hepatitis | 5.0      | 0.938    | 8     | 21  | Relu          | ClipRound       |
| 3   | CSEEM  | hepatitis | 15.996   | 0.95     | 16    | 24  | Relu          | ClipRound       |
| 3   | CSEEM  | hepatitis | 32.001   | 0.938    | 32    | 18  | Relu          | ClipRound       |
| 3   | CSEEM  | hepatitis | 9.0      | 0.925    | 8     | 10  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | hepatitis | 14.004   | 0.95     | 16    | 15  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | hepatitis | 23.998   | 0.95     | 32    | 12  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | hepatitis | 7.999    | 0.85     | 8     | 11  | Sin           | ClipRound       |
| 3   | CSEEM  | hepatitis | 30.006   | 0.887    | 16    | 20  | Sin           | ClipRound       |
| 3   | CSEEM  | hepatitis | 42.0     | 0.938    | 32    | 22  | Sin           | ClipRound       |
| 4   | CSEEM  | hepatitis | 10.999   | 0.963    | 8     | 23  | Tanh          | ClipRound       |
| 4   | CSEEM  | hepatitis | 17.996   | 0.938    | 16    | 13  | Tanh          | ClipRound       |
| 4   | CSEEM  | hepatitis | 50.998   | 0.975    | 32    | 21  | Tanh          | ClipRound       |

Table I.39: All CSEEM Results of classification problems (39/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | hepatitis  | 16.999   | 0.975    | 8     | 25  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | hepatitis  | 23.003   | 0.95     | 16    | 18  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | hepatitis  | 53.999   | 0.975    | 32    | 26  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | hepatitis  | 7.0      | 0.912    | 8     | 15  | Relu          | ClipRound       |
| 4   | CSEEM  | hepatitis  | 20.998   | 0.975    | 16    | 26  | Relu          | ClipRound       |
| 4   | CSEEM  | hepatitis  | 39.998   | 0.938    | 32    | 15  | Relu          | ClipRound       |
| 4   | CSEEM  | hepatitis  | 6.0      | 0.938    | 8     | 19  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | hepatitis  | 16.0     | 0.988    | 16    | 22  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | hepatitis  | 56.001   | 0.95     | 32    | 19  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | hepatitis  | 13.999   | 0.988    | 8     | 31  | Sin           | ClipRound       |
| 4   | CSEEM  | hepatitis  | 9.999    | 0.887    | 16    | 21  | Sin           | ClipRound       |
| 4   | CSEEM  | hepatitis  | 24.999   | 0.938    | 32    | 29  | Sin           | ClipRound       |
| 5   | CSEEM  | hepatitis  | 12.999   | 0.95     | 8     | 16  | Tanh          | ClipRound       |
| 5   | CSEEM  | hepatitis  | 21.998   | 0.975    | 16    | 24  | Tanh          | ClipRound       |
| 5   | CSEEM  | hepatitis  | 51.999   | 0.963    | 32    | 17  | Tanh          | ClipRound       |
| 5   | CSEEM  | hepatitis  | 12.0     | 0.938    | 8     | 23  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | hepatitis  | 15.026   | 0.95     | 16    | 15  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | hepatitis  | 41.999   | 0.95     | 32    | 16  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | hepatitis  | 6.999    | 0.95     | 8     | 19  | Relu          | ClipRound       |
| 5   | CSEEM  | hepatitis  | 27.002   | 0.95     | 16    | 23  | Relu          | ClipRound       |
| 5   | CSEEM  | hepatitis  | 70.999   | 0.963    | 32    | 21  | Relu          | ClipRound       |
| 5   | CSEEM  | hepatitis  | 12.0     | 0.95     | 8     | 12  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | hepatitis  | 12.0     | 0.988    | 16    | 25  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | hepatitis  | 57.999   | 0.975    | 32    | 23  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | hepatitis  | 13.999   | 0.9      | 8     | 20  | Sin           | ClipRound       |
| 5   | CSEEM  | hepatitis  | 23.0     | 0.938    | 16    | 27  | Sin           | ClipRound       |
| 5   | CSEEM  | hepatitis  | 27.0     | 0.9      | 32    | 13  | Sin           | ClipRound       |
| 1   | CSEEM  | housevotes | 34.999   | 0.974    | 8     | 53  | Tanh          | ClipRound       |
| 1   | CSEEM  | housevotes | 137.999  | 0.987    | 16    | 55  | Tanh          | ClipRound       |
| 1   | CSEEM  | housevotes | 218.999  | 0.991    | 32    | 40  | Tanh          | ClipRound       |
| 1   | CSEEM  | housevotes | 65.998   | 0.978    | 8     | 44  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | housevotes | 157.041  | 0.974    | 16    | 32  | SoftRelu      | ClipRound       |

Table I.40: All CSEEM Results of classification problems (40/83).



| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | housevotes | 115.0    | 0.978    | 32    | 29  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | housevotes | 74.999   | 0.978    | 8     | 43  | Relu          | ClipRound       |
| 1   | CSEEM  | housevotes | 201.999  | 0.978    | 16    | 29  | Relu          | ClipRound       |
| 1   | CSEEM  | housevotes | 352.0    | 0.987    | 32    | 50  | Relu          | ClipRound       |
| 1   | CSEEM  | housevotes | 106.999  | 0.983    | 8     | 39  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | housevotes | 139.999  | 0.978    | 16    | 36  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | housevotes | 286.999  | 0.978    | 32    | 23  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | housevotes | 181.999  | 0.944    | 8     | 102 | Sin           | ClipRound       |
| 1   | CSEEM  | housevotes | 333.999  | 0.909    | 16    | 79  | Sin           | ClipRound       |
| 1   | CSEEM  | housevotes | 510.0    | 0.957    | 32    | 96  | Sin           | ClipRound       |
| 2   | CSEEM  | housevotes | 159.0    | 0.978    | 8     | 33  | Tanh          | ClipRound       |
| 2   | CSEEM  | housevotes | 173.995  | 0.983    | 16    | 40  | Tanh          | ClipRound       |
| 2   | CSEEM  | housevotes | 395.003  | 0.987    | 32    | 45  | Tanh          | ClipRound       |
| 2   | CSEEM  | housevotes | 27.999   | 0.97     | 8     | 32  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | housevotes | 100.002  | 0.987    | 16    | 54  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | housevotes | 246.0    | 0.983    | 32    | 35  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | housevotes | 102.001  | 0.978    | 8     | 38  | Relu          | ClipRound       |
| 2   | CSEEM  | housevotes | 96.994   | 0.978    | 16    | 35  | Relu          | ClipRound       |
| 2   | CSEEM  | housevotes | 319.999  | 0.983    | 32    | 39  | Relu          | ClipRound       |
| 2   | CSEEM  | housevotes | 101.999  | 0.974    | 8     | 32  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | housevotes | 97.0     | 0.978    | 16    | 41  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | housevotes | 222.001  | 0.987    | 32    | 47  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | housevotes | 48.998   | 0.922    | 8     | 76  | Sin           | ClipRound       |
| 2   | CSEEM  | housevotes | 148.989  | 0.892    | 16    | 77  | Sin           | ClipRound       |
| 2   | CSEEM  | housevotes | 652.507  | 0.914    | 32    | 85  | Sin           | ClipRound       |
| 3   | CSEEM  | housevotes | 86.999   | 0.978    | 8     | 37  | Tanh          | ClipRound       |
| 3   | CSEEM  | housevotes | 366.013  | 0.978    | 16    | 34  | Tanh          | ClipRound       |
| 3   | CSEEM  | housevotes | 578.003  | 0.987    | 32    | 44  | Tanh          | ClipRound       |
| 3   | CSEEM  | housevotes | 98.999   | 0.983    | 8     | 43  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | housevotes | 92.991   | 0.983    | 16    | 45  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | housevotes | 308.998  | 0.974    | 32    | 34  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | housevotes | 66.0     | 0.966    | 8     | 35  | Relu          | ClipRound       |

Table I.41: All CSEEM Results of classification problems (41/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | housevotes | 79.009   | 0.978    | 16    | 40  | Relu          | ClipRound       |
| 3   | CSEEM  | housevotes | 232.998  | 0.978    | 32    | 35  | Relu          | ClipRound       |
| 3   | CSEEM  | housevotes | 84.999   | 0.974    | 8     | 43  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | housevotes | 74.998   | 0.983    | 16    | 36  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | housevotes | 118.999  | 0.983    | 32    | 37  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | housevotes | 124.0    | 0.905    | 8     | 73  | Sin           | ClipRound       |
| 3   | CSEEM  | housevotes | 414.001  | 0.927    | 16    | 94  | Sin           | ClipRound       |
| 3   | CSEEM  | housevotes | 579.0    | 0.94     | 32    | 93  | Sin           | ClipRound       |
| 4   | CSEEM  | housevotes | 180.0    | 0.97     | 8     | 29  | Tanh          | ClipRound       |
| 4   | CSEEM  | housevotes | 176.006  | 0.987    | 16    | 43  | Tanh          | ClipRound       |
| 4   | CSEEM  | housevotes | 198.0    | 0.978    | 32    | 31  | Tanh          | ClipRound       |
| 4   | CSEEM  | housevotes | 252.999  | 0.983    | 8     | 43  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | housevotes | 92.992   | 0.987    | 16    | 48  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | housevotes | 260.998  | 0.978    | 32    | 27  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | housevotes | 41.998   | 0.966    | 8     | 46  | Relu          | ClipRound       |
| 4   | CSEEM  | housevotes | 142.0    | 0.978    | 16    | 41  | Relu          | ClipRound       |
| 4   | CSEEM  | housevotes | 331.999  | 0.987    | 32    | 30  | Relu          | ClipRound       |
| 4   | CSEEM  | housevotes | 74.998   | 0.983    | 8     | 50  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | housevotes | 91.0     | 0.983    | 16    | 42  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | housevotes | 125.0    | 0.978    | 32    | 31  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | housevotes | 65.999   | 0.953    | 8     | 107 | Sin           | ClipRound       |
| 4   | CSEEM  | housevotes | 242.998  | 0.948    | 16    | 85  | Sin           | ClipRound       |
| 4   | CSEEM  | housevotes | 237.998  | 0.914    | 32    | 88  | Sin           | ClipRound       |
| 5   | CSEEM  | housevotes | 34.0     | 0.97     | 8     | 33  | Tanh          | ClipRound       |
| 5   | CSEEM  | housevotes | 119.0    | 0.97     | 16    | 24  | Tanh          | ClipRound       |
| 5   | CSEEM  | housevotes | 74.0     | 0.978    | 32    | 47  | Tanh          | ClipRound       |
| 5   | CSEEM  | housevotes | 61.998   | 0.978    | 8     | 36  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | housevotes | 187.001  | 0.974    | 16    | 25  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | housevotes | 81.0     | 0.97     | 32    | 28  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | housevotes | 119.999  | 0.974    | 8     | 35  | Relu          | ClipRound       |
| 5   | CSEEM  | housevotes | 135.995  | 0.983    | 16    | 39  | Relu          | ClipRound       |
| 5   | CSEEM  | housevotes | 314.999  | 0.978    | 32    | 34  | Relu          | ClipRound       |

Table I.42: All CSEEM Results of classification problems (42/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | housevotes | 105.999  | 0.974    | 8     | 42  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | housevotes | 285.002  | 0.983    | 16    | 41  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | housevotes | 404.0    | 0.978    | 32    | 41  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | housevotes | 39.999   | 0.884    | 8     | 66  | Sin           | ClipRound       |
| 5   | CSEEM  | housevotes | 269.998  | 0.897    | 16    | 62  | Sin           | ClipRound       |
| 5   | CSEEM  | housevotes | 196.0    | 0.927    | 32    | 89  | Sin           | ClipRound       |
| 1   | CSEEM  | ionosphere | 104.001  | 0.969    | 8     | 81  | Tanh          | ClipRound       |
| 1   | CSEEM  | ionosphere | 453.0    | 0.98     | 16    | 96  | Tanh          | ClipRound       |
| 1   | CSEEM  | ionosphere | 161.0    | 0.969    | 32    | 87  | Tanh          | ClipRound       |
| 1   | CSEEM  | ionosphere | 115.001  | 0.972    | 8     | 92  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | ionosphere | 574.001  | 0.972    | 16    | 90  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | ionosphere | 483.0    | 0.969    | 32    | 88  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | ionosphere | 182.001  | 0.972    | 8     | 67  | Relu          | ClipRound       |
| 1   | CSEEM  | ionosphere | 300.002  | 0.966    | 16    | 74  | Relu          | ClipRound       |
| 1   | CSEEM  | ionosphere | 715.506  | 0.977    | 32    | 87  | Relu          | ClipRound       |
| 1   | CSEEM  | ionosphere | 91.0     | 0.974    | 8     | 93  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | ionosphere | 461.091  | 0.972    | 16    | 84  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | ionosphere | 565.0    | 0.98     | 32    | 96  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | ionosphere | 236.999  | 0.897    | 8     | 105 | Sin           | ClipRound       |
| 1   | CSEEM  | ionosphere | 625.001  | 0.96     | 16    | 161 | Sin           | ClipRound       |
| 1   | CSEEM  | ionosphere | 263.019  | 0.943    | 32    | 147 | Sin           | ClipRound       |
| 2   | CSEEM  | ionosphere | 125.001  | 0.969    | 8     | 94  | Tanh          | ClipRound       |
| 2   | CSEEM  | ionosphere | 208.0    | 0.957    | 16    | 66  | Tanh          | ClipRound       |
| 2   | CSEEM  | ionosphere | 645.0    | 0.977    | 32    | 96  | Tanh          | ClipRound       |
| 2   | CSEEM  | ionosphere | 71.001   | 0.966    | 8     | 80  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | ionosphere | 145.998  | 0.96     | 16    | 67  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | ionosphere | 893.001  | 0.98     | 32    | 85  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | ionosphere | 311.001  | 0.969    | 8     | 75  | Relu          | ClipRound       |
| 2   | CSEEM  | ionosphere | 497.006  | 0.954    | 16    | 57  | Relu          | ClipRound       |
| 2   | CSEEM  | ionosphere | 948.0    | 0.963    | 32    | 66  | Relu          | ClipRound       |
| 2   | CSEEM  | ionosphere | 169.001  | 0.972    | 8     | 95  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | ionosphere | 389.996  | 0.983    | 16    | 94  | Sigmoid       | ClipRound       |

Table I.43: All CSEEM Results of classification problems (43/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | ionosphere | 342.0    | 0.96     | 32    | 68  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | ionosphere | 88.51    | 0.84     | 8     | 66  | Sin           | ClipRound       |
| 2   | CSEEM  | ionosphere | 648.0    | 0.937    | 16    | 152 | Sin           | ClipRound       |
| 2   | CSEEM  | ionosphere | 913.0    | 0.926    | 32    | 117 | Sin           | ClipRound       |
| 3   | CSEEM  | ionosphere | 94.999   | 0.96     | 8     | 90  | Tanh          | ClipRound       |
| 3   | CSEEM  | ionosphere | 436.034  | 0.972    | 16    | 83  | Tanh          | ClipRound       |
| 3   | CSEEM  | ionosphere | 552.001  | 0.957    | 32    | 57  | Tanh          | ClipRound       |
| 3   | CSEEM  | ionosphere | 228.002  | 0.98     | 8     | 99  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | ionosphere | 179.01   | 0.969    | 16    | 77  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | ionosphere | 951.998  | 0.972    | 32    | 87  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | ionosphere | 210.999  | 0.98     | 8     | 103 | Relu          | ClipRound       |
| 3   | CSEEM  | ionosphere | 270.001  | 0.977    | 16    | 83  | Relu          | ClipRound       |
| 3   | CSEEM  | ionosphere | 320.002  | 0.966    | 32    | 59  | Relu          | ClipRound       |
| 3   | CSEEM  | ionosphere | 247.001  | 0.974    | 8     | 89  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | ionosphere | 527.001  | 0.966    | 16    | 62  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | ionosphere | 301.999  | 0.972    | 32    | 78  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | ionosphere | 116.999  | 0.923    | 8     | 147 | Sin           | ClipRound       |
| 3   | CSEEM  | ionosphere | 352.002  | 0.883    | 16    | 108 | Sin           | ClipRound       |
| 3   | CSEEM  | ionosphere | 903.003  | 0.915    | 32    | 124 | Sin           | ClipRound       |
| 4   | CSEEM  | ionosphere | 254.001  | 0.969    | 8     | 105 | Tanh          | ClipRound       |
| 4   | CSEEM  | ionosphere | 414.0    | 0.963    | 16    | 74  | Tanh          | ClipRound       |
| 4   | CSEEM  | ionosphere | 883.508  | 0.972    | 32    | 86  | Tanh          | ClipRound       |
| 4   | CSEEM  | ionosphere | 312.999  | 0.977    | 8     | 91  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | ionosphere | 897.545  | 0.972    | 16    | 79  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | ionosphere | 762.0    | 0.969    | 32    | 79  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | ionosphere | 140.0    | 0.949    | 8     | 51  | Relu          | ClipRound       |
| 4   | CSEEM  | ionosphere | 204.0    | 0.966    | 16    | 74  | Relu          | ClipRound       |
| 4   | CSEEM  | ionosphere | 514.0    | 0.98     | 32    | 99  | Relu          | ClipRound       |
| 4   | CSEEM  | ionosphere | 398.0    | 0.974    | 8     | 77  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | ionosphere | 555.0    | 0.974    | 16    | 74  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | ionosphere | 640.999  | 0.969    | 32    | 76  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | ionosphere | 268.0    | 0.94     | 8     | 139 | Sin           | ClipRound       |

Table I.44: All CSEEM Results of classification problems (44/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | ionosphere | 562.999  | 0.943    | 16    | 145 | Sin           | ClipRound       |
| 4   | CSEEM  | ionosphere | 274.0    | 0.923    | 32    | 134 | Sin           | ClipRound       |
| 5   | CSEEM  | ionosphere | 335.0    | 0.954    | 8     | 50  | Tanh          | ClipRound       |
| 5   | CSEEM  | ionosphere | 360.0    | 0.963    | 16    | 65  | Tanh          | ClipRound       |
| 5   | CSEEM  | ionosphere | 339.999  | 0.974    | 32    | 66  | Tanh          | ClipRound       |
| 5   | CSEEM  | ionosphere | 74.0     | 0.946    | 8     | 59  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | ionosphere | 338.0    | 0.949    | 16    | 56  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | ionosphere | 735.999  | 0.96     | 32    | 70  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | ionosphere | 229.002  | 0.972    | 8     | 93  | Relu          | ClipRound       |
| 5   | CSEEM  | ionosphere | 607.002  | 0.96     | 16    | 64  | Relu          | ClipRound       |
| 5   | CSEEM  | ionosphere | 381.999  | 0.966    | 32    | 76  | Relu          | ClipRound       |
| 5   | CSEEM  | ionosphere | 374.0    | 0.98     | 8     | 73  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | ionosphere | 101.008  | 0.929    | 16    | 44  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | ionosphere | 889.997  | 0.972    | 32    | 83  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | ionosphere | 370.0    | 0.909    | 8     | 123 | Sin           | ClipRound       |
| 5   | CSEEM  | ionosphere | 198.007  | 0.915    | 16    | 122 | Sin           | ClipRound       |
| 5   | CSEEM  | ionosphere | 130.001  | 0.903    | 32    | 121 | Sin           | ClipRound       |
| 1   | CSEEM  | iris       | 19.999   | 0.98     | 8     | 16  | Tanh          | ClipRound       |
| 1   | CSEEM  | iris       | 30.998   | 0.987    | 16    | 19  | Tanh          | ClipRound       |
| 1   | CSEEM  | iris       | 71.999   | 0.993    | 32    | 18  | Tanh          | ClipRound       |
| 1   | CSEEM  | iris       | 15.0     | 0.993    | 8     | 19  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | iris       | 32.0     | 0.987    | 16    | 21  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | iris       | 43.999   | 0.993    | 32    | 25  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | iris       | 5.0      | 0.953    | 8     | 10  | Relu          | ClipRound       |
| 1   | CSEEM  | iris       | 67.006   | 0.973    | 16    | 17  | Relu          | ClipRound       |
| 1   | CSEEM  | iris       | 48.998   | 0.993    | 32    | 20  | Relu          | ClipRound       |
| 1   | CSEEM  | iris       | 14.0     | 0.987    | 8     | 25  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | iris       | 35.997   | 0.98     | 16    | 10  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | iris       | 72.0     | 0.993    | 32    | 24  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | iris       | 18.999   | 0.973    | 8     | 23  | Sin           | ClipRound       |
| 1   | CSEEM  | iris       | 26.999   | 0.96     | 16    | 12  | Sin           | ClipRound       |
| 1   | CSEEM  | iris       | 34.0     | 0.953    | 32    | 18  | Sin           | ClipRound       |

Table I.45: All CSEEM Results of classification problems (45/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | iris    | 28.0     | 0.98     | 8     | 29  | Tanh          | ClipRound       |
| 2   | CSEEM  | iris    | 44.991   | 0.98     | 16    | 28  | Tanh          | ClipRound       |
| 2   | CSEEM  | iris    | 77.0     | 0.987    | 32    | 20  | Tanh          | ClipRound       |
| 2   | CSEEM  | iris    | 16.999   | 0.987    | 8     | 31  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | iris    | 47.993   | 0.987    | 16    | 23  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | iris    | 34.001   | 0.98     | 32    | 13  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | iris    | 12.0     | 0.98     | 8     | 23  | Relu          | ClipRound       |
| 2   | CSEEM  | iris    | 45.99    | 0.98     | 16    | 18  | Relu          | ClipRound       |
| 2   | CSEEM  | iris    | 146.001  | 0.987    | 32    | 18  | Relu          | ClipRound       |
| 2   | CSEEM  | iris    | 15.0     | 0.993    | 8     | 17  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | iris    | 41.999   | 0.987    | 16    | 26  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | iris    | 64.997   | 0.98     | 32    | 21  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | iris    | 36.0     | 0.98     | 8     | 26  | Sin           | ClipRound       |
| 2   | CSEEM  | iris    | 42.998   | 0.98     | 16    | 21  | Sin           | ClipRound       |
| 2   | CSEEM  | iris    | 123.999  | 0.987    | 32    | 18  | Sin           | ClipRound       |
| 3   | CSEEM  | iris    | 12.999   | 0.96     | 8     | 22  | Tanh          | ClipRound       |
| 3   | CSEEM  | iris    | 18.001   | 0.973    | 16    | 13  | Tanh          | ClipRound       |
| 3   | CSEEM  | iris    | 110.0    | 0.993    | 32    | 27  | Tanh          | ClipRound       |
| 3   | CSEEM  | iris    | 5.001    | 0.987    | 8     | 22  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | iris    | 24.003   | 0.987    | 16    | 20  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | iris    | 52.0     | 0.987    | 32    | 19  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | iris    | 12.999   | 0.98     | 8     | 15  | Relu          | ClipRound       |
| 3   | CSEEM  | iris    | 23.999   | 0.987    | 16    | 18  | Relu          | ClipRound       |
| 3   | CSEEM  | iris    | 59.003   | 0.98     | 32    | 18  | Relu          | ClipRound       |
| 3   | CSEEM  | iris    | 43.0     | 0.98     | 8     | 25  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | iris    | 33.997   | 0.987    | 16    | 23  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | iris    | 35.0     | 0.993    | 32    | 22  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | iris    | 10.0     | 0.967    | 8     | 20  | Sin           | ClipRound       |
| 3   | CSEEM  | iris    | 22.998   | 0.96     | 16    | 16  | Sin           | ClipRound       |
| 3   | CSEEM  | iris    | 63.0     | 0.973    | 32    | 24  | Sin           | ClipRound       |
| 4   | CSEEM  | iris    | 12.0     | 0.987    | 8     | 31  | Tanh          | ClipRound       |
| 4   | CSEEM  | iris    | 59.995   | 0.967    | 16    | 26  | Tanh          | ClipRound       |

Table I.46: All CSEEM Results of classification problems (46/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | iris      | 102.001  | 0.993    | 32    | 28  | Tanh          | ClipRound       |
| 4   | CSEEM  | iris      | 32.0     | 0.987    | 8     | 17  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | iris      | 30.998   | 0.987    | 16    | 12  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | iris      | 37.999   | 0.987    | 32    | 19  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | iris      | 34.0     | 0.98     | 8     | 18  | Relu          | ClipRound       |
| 4   | CSEEM  | iris      | 14.999   | 0.98     | 16    | 20  | Relu          | ClipRound       |
| 4   | CSEEM  | iris      | 56.001   | 0.98     | 32    | 15  | Relu          | ClipRound       |
| 4   | CSEEM  | iris      | 27.001   | 0.987    | 8     | 24  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | iris      | 42.0     | 0.98     | 16    | 8   | Sigmoid       | ClipRound       |
| 4   | CSEEM  | iris      | 49.999   | 0.98     | 32    | 19  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | iris      | 17.0     | 0.973    | 8     | 25  | Sin           | ClipRound       |
| 4   | CSEEM  | iris      | 56.001   | 0.993    | 16    | 29  | Sin           | ClipRound       |
| 4   | CSEEM  | iris      | 39.999   | 0.98     | 32    | 18  | Sin           | ClipRound       |
| 5   | CSEEM  | iris      | 5.999    | 0.98     | 8     | 14  | Tanh          | ClipRound       |
| 5   | CSEEM  | iris      | 36.0     | 0.993    | 16    | 13  | Tanh          | ClipRound       |
| 5   | CSEEM  | iris      | 54.0     | 0.973    | 32    | 18  | Tanh          | ClipRound       |
| 5   | CSEEM  | iris      | 25.003   | 0.98     | 8     | 17  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | iris      | 77.006   | 0.987    | 16    | 18  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | iris      | 69.0     | 0.993    | 32    | 11  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | iris      | 15.0     | 0.96     | 8     | 12  | Relu          | ClipRound       |
| 5   | CSEEM  | iris      | 20.999   | 0.96     | 16    | 18  | Relu          | ClipRound       |
| 5   | CSEEM  | iris      | 44.999   | 0.987    | 32    | 9   | Relu          | ClipRound       |
| 5   | CSEEM  | iris      | 19.0     | 0.98     | 8     | 23  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | iris      | 31.999   | 0.973    | 16    | 22  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | iris      | 32.999   | 0.973    | 32    | 14  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | iris      | 30.999   | 0.973    | 8     | 17  | Sin           | ClipRound       |
| 5   | CSEEM  | iris      | 69.996   | 0.973    | 16    | 21  | Sin           | ClipRound       |
| 5   | CSEEM  | iris      | 60.999   | 0.98     | 32    | 24  | Sin           | ClipRound       |
| 1   | CSEEM  | led7digit | 207.0    | 0.746    | 8     | 69  | Tanh          | ClipRound       |
| 1   | CSEEM  | led7digit | 130.999  | 0.77     | 16    | 69  | Tanh          | ClipRound       |
| 1   | CSEEM  | led7digit | 257.998  | 0.766    | 32    | 75  | Tanh          | ClipRound       |
| 1   | CSEEM  | led7digit | 593.999  | 0.76     | 8     | 80  | SoftRelu      | ClipRound       |

Table I.47: All CSEEM Results of classification problems (47/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | led7digit | 457.0    | 0.762    | 16    | 87  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | led7digit | 533.0    | 0.766    | 32    | 71  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | led7digit | 357.0    | 0.77     | 8     | 88  | Relu          | ClipRound       |
| 1   | CSEEM  | led7digit | 527.992  | 0.768    | 16    | 100 | Relu          | ClipRound       |
| 1   | CSEEM  | led7digit | 397.0    | 0.764    | 32    | 69  | Relu          | ClipRound       |
| 1   | CSEEM  | led7digit | 441.002  | 0.768    | 8     | 78  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | led7digit | 928.992  | 0.762    | 16    | 77  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | led7digit | 486.999  | 0.756    | 32    | 71  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | led7digit | 155.999  | 0.766    | 8     | 91  | Sin           | ClipRound       |
| 1   | CSEEM  | led7digit | 540.993  | 0.77     | 16    | 82  | Sin           | ClipRound       |
| 1   | CSEEM  | led7digit | 564.999  | 0.768    | 32    | 77  | Sin           | ClipRound       |
| 2   | CSEEM  | led7digit | 508.999  | 0.766    | 8     | 89  | Tanh          | ClipRound       |
| 2   | CSEEM  | led7digit | 561.994  | 0.764    | 16    | 65  | Tanh          | ClipRound       |
| 2   | CSEEM  | led7digit | 716.999  | 0.754    | 32    | 69  | Tanh          | ClipRound       |
| 2   | CSEEM  | led7digit | 407.999  | 0.768    | 8     | 101 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | led7digit | 711.007  | 0.762    | 16    | 75  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | led7digit | 193.999  | 0.762    | 32    | 64  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | led7digit | 72.0     | 0.75     | 8     | 53  | Relu          | ClipRound       |
| 2   | CSEEM  | led7digit | 248.999  | 0.776    | 16    | 82  | Relu          | ClipRound       |
| 2   | CSEEM  | led7digit | 955.998  | 0.766    | 32    | 68  | Relu          | ClipRound       |
| 2   | CSEEM  | led7digit | 240.0    | 0.774    | 8     | 70  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | led7digit | 376.997  | 0.762    | 16    | 81  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | led7digit | 204.0    | 0.756    | 32    | 67  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | led7digit | 404.999  | 0.762    | 8     | 112 | Sin           | ClipRound       |
| 2   | CSEEM  | led7digit | 725.005  | 0.76     | 16    | 74  | Sin           | ClipRound       |
| 2   | CSEEM  | led7digit | 204.0    | 0.772    | 32    | 74  | Sin           | ClipRound       |
| 3   | CSEEM  | led7digit | 283.0    | 0.762    | 8     | 69  | Tanh          | ClipRound       |
| 3   | CSEEM  | led7digit | 166.989  | 0.78     | 16    | 84  | Tanh          | ClipRound       |
| 3   | CSEEM  | led7digit | 535.999  | 0.764    | 32    | 76  | Tanh          | ClipRound       |
| 3   | CSEEM  | led7digit | 210.0    | 0.76     | 8     | 81  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | led7digit | 362.002  | 0.774    | 16    | 77  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | led7digit | 790.0    | 0.768    | 32    | 65  | SoftRelu      | ClipRound       |

Table I.48: All CSEEM Results of classification problems (48/83).



| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | led7digit | 287.999  | 0.768    | 8     | 88  | Relu          | ClipRound       |
| 3   | CSEEM  | led7digit | 597.037  | 0.772    | 16    | 72  | Relu          | ClipRound       |
| 3   | CSEEM  | led7digit | 15.999   | 0.762    | 32    | 70  | Relu          | ClipRound       |
| 3   | CSEEM  | led7digit | 411.999  | 0.762    | 8     | 76  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | led7digit | 307.997  | 0.754    | 16    | 71  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | led7digit | 509.0    | 0.76     | 32    | 66  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | led7digit | 343.003  | 0.762    | 8     | 77  | Sin           | ClipRound       |
| 3   | CSEEM  | led7digit | 198.998  | 0.758    | 16    | 81  | Sin           | ClipRound       |
| 3   | CSEEM  | led7digit | 920.0    | 0.762    | 32    | 75  | Sin           | ClipRound       |
| 4   | CSEEM  | led7digit | 433.999  | 0.746    | 8     | 65  | Tanh          | ClipRound       |
| 4   | CSEEM  | led7digit | 559.996  | 0.764    | 16    | 70  | Tanh          | ClipRound       |
| 4   | CSEEM  | led7digit | 345.002  | 0.766    | 32    | 77  | Tanh          | ClipRound       |
| 4   | CSEEM  | led7digit | 128.999  | 0.764    | 8     | 80  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | led7digit | 579.912  | 0.768    | 16    | 74  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | led7digit | 149.999  | 0.764    | 32    | 67  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | led7digit | 307.999  | 0.774    | 8     | 82  | Relu          | ClipRound       |
| 4   | CSEEM  | led7digit | 797.999  | 0.762    | 16    | 76  | Relu          | ClipRound       |
| 4   | CSEEM  | led7digit | 105.001  | 0.76     | 32    | 72  | Relu          | ClipRound       |
| 4   | CSEEM  | led7digit | 435.0    | 0.766    | 8     | 72  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | led7digit | 333.999  | 0.754    | 16    | 69  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | led7digit | 603.0    | 0.762    | 32    | 68  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | led7digit | 628.0    | 0.784    | 8     | 75  | Sin           | ClipRound       |
| 4   | CSEEM  | led7digit | 336.002  | 0.77     | 16    | 101 | Sin           | ClipRound       |
| 4   | CSEEM  | led7digit | 168.998  | 0.766    | 32    | 80  | Sin           | ClipRound       |
| 5   | CSEEM  | led7digit | 378.999  | 0.776    | 8     | 86  | Tanh          | ClipRound       |
| 5   | CSEEM  | led7digit | 418.999  | 0.772    | 16    | 76  | Tanh          | ClipRound       |
| 5   | CSEEM  | led7digit | 275.999  | 0.766    | 32    | 74  | Tanh          | ClipRound       |
| 5   | CSEEM  | led7digit | 306.0    | 0.768    | 8     | 100 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | led7digit | 460.0    | 0.75     | 16    | 70  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | led7digit | 321.001  | 0.764    | 32    | 67  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | led7digit | 362.998  | 0.766    | 8     | 87  | Relu          | ClipRound       |
| 5   | CSEEM  | led7digit | 153.986  | 0.754    | 16    | 72  | Relu          | ClipRound       |

Table I.49: All CSEEM Results of classification problems (49/83).

| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | led7digit    | 954.001  | 0.756    | 32    | 74  | Relu          | ClipRound       |
| 5   | CSEEM  | led7digit    | 315.999  | 0.77     | 8     | 104 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | led7digit    | 683.99   | 0.764    | 16    | 71  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | led7digit    | 32.999   | 0.76     | 32    | 73  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | led7digit    | 221.999  | 0.766    | 8     | 94  | Sin           | ClipRound       |
| 5   | CSEEM  | led7digit    | 573.992  | 0.76     | 16    | 74  | Sin           | ClipRound       |
| 5   | CSEEM  | led7digit    | 592.999  | 0.764    | 32    | 76  | Sin           | ClipRound       |
| 1   | CSEEM  | lymphography | 17.0     | 0.912    | 8     | 42  | Tanh          | ClipRound       |
| 1   | CSEEM  | lymphography | 41.001   | 0.885    | 16    | 35  | Tanh          | ClipRound       |
| 1   | CSEEM  | lymphography | 93.999   | 0.899    | 32    | 53  | Tanh          | ClipRound       |
| 1   | CSEEM  | lymphography | 26.0     | 0.885    | 8     | 29  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | lymphography | 39.0     | 0.892    | 16    | 38  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | lymphography | 167.0    | 0.953    | 32    | 50  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | lymphography | 42.999   | 0.953    | 8     | 53  | Relu          | ClipRound       |
| 1   | CSEEM  | lymphography | 65.993   | 0.926    | 16    | 42  | Relu          | ClipRound       |
| 1   | CSEEM  | lymphography | 91.999   | 0.905    | 32    | 30  | Relu          | ClipRound       |
| 1   | CSEEM  | lymphography | 14.998   | 0.926    | 8     | 57  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | lymphography | 60.007   | 0.892    | 16    | 39  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | lymphography | 180.998  | 0.905    | 32    | 45  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | lymphography | 59.509   | 0.892    | 8     | 79  | Sin           | ClipRound       |
| 1   | CSEEM  | lymphography | 72.993   | 0.791    | 16    | 67  | Sin           | ClipRound       |
| 1   | CSEEM  | lymphography | 79.999   | 0.791    | 32    | 62  | Sin           | ClipRound       |
| 2   | CSEEM  | lymphography | 16.001   | 0.926    | 8     | 70  | Tanh          | ClipRound       |
| 2   | CSEEM  | lymphography | 43.999   | 0.865    | 16    | 46  | Tanh          | ClipRound       |
| 2   | CSEEM  | lymphography | 120.999  | 0.899    | 32    | 31  | Tanh          | ClipRound       |
| 2   | CSEEM  | lymphography | 20.999   | 0.939    | 8     | 50  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | lymphography | 45.996   | 0.926    | 16    | 33  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | lymphography | 148.998  | 0.919    | 32    | 41  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | lymphography | 41.999   | 0.932    | 8     | 43  | Relu          | ClipRound       |
| 2   | CSEEM  | lymphography | 87.004   | 0.926    | 16    | 35  | Relu          | ClipRound       |
| 2   | CSEEM  | lymphography | 65.0     | 0.919    | 32    | 40  | Relu          | ClipRound       |
| 2   | CSEEM  | lymphography | 27.0     | 0.959    | 8     | 59  | Sigmoid       | ClipRound       |

Table I.50: All CSEEM Results of classification problems (50/83).

| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | lymphography | 89.972   | 0.926    | 16    | 50  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | lymphography | 133.998  | 0.919    | 32    | 42  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | lymphography | 6.001    | 0.696    | 8     | 33  | Sin           | ClipRound       |
| 2   | CSEEM  | lymphography | 79.993   | 0.777    | 16    | 59  | Sin           | ClipRound       |
| 2   | CSEEM  | lymphography | 107.0    | 0.858    | 32    | 74  | Sin           | ClipRound       |
| 3   | CSEEM  | lymphography | 35.0     | 0.919    | 8     | 46  | Tanh          | ClipRound       |
| 3   | CSEEM  | lymphography | 25.999   | 0.865    | 16    | 31  | Tanh          | ClipRound       |
| 3   | CSEEM  | lymphography | 106.999  | 0.946    | 32    | 52  | Tanh          | ClipRound       |
| 3   | CSEEM  | lymphography | 26.999   | 0.919    | 8     | 43  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | lymphography | 149.001  | 0.912    | 16    | 44  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | lymphography | 184.999  | 0.905    | 32    | 37  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | lymphography | 21.0     | 0.905    | 8     | 46  | Relu          | ClipRound       |
| 3   | CSEEM  | lymphography | 49.999   | 0.932    | 16    | 47  | Relu          | ClipRound       |
| 3   | CSEEM  | lymphography | 65.0     | 0.926    | 32    | 46  | Relu          | ClipRound       |
| 3   | CSEEM  | lymphography | 19.0     | 0.899    | 8     | 42  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | lymphography | 46.998   | 0.946    | 16    | 50  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | lymphography | 199.0    | 0.939    | 32    | 51  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | lymphography | 29.0     | 0.77     | 8     | 64  | Sin           | ClipRound       |
| 3   | CSEEM  | lymphography | 52.992   | 0.791    | 16    | 63  | Sin           | ClipRound       |
| 3   | CSEEM  | lymphography | 137.001  | 0.784    | 32    | 54  | Sin           | ClipRound       |
| 4   | CSEEM  | lymphography | 31.0     | 0.912    | 8     | 50  | Tanh          | ClipRound       |
| 4   | CSEEM  | lymphography | 17.994   | 0.926    | 16    | 49  | Tanh          | ClipRound       |
| 4   | CSEEM  | lymphography | 100.998  | 0.946    | 32    | 60  | Tanh          | ClipRound       |
| 4   | CSEEM  | lymphography | 43.0     | 0.912    | 8     | 52  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | lymphography | 73.999   | 0.912    | 16    | 43  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | lymphography | 58.999   | 0.912    | 32    | 40  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | lymphography | 19.0     | 0.905    | 8     | 36  | Relu          | ClipRound       |
| 4   | CSEEM  | lymphography | 54.999   | 0.932    | 16    | 43  | Relu          | ClipRound       |
| 4   | CSEEM  | lymphography | 131.999  | 0.912    | 32    | 37  | Relu          | ClipRound       |
| 4   | CSEEM  | lymphography | 21.999   | 0.932    | 8     | 50  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | lymphography | 88.001   | 0.953    | 16    | 49  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | lymphography | 99.999   | 0.905    | 32    | 39  | Sigmoid       | ClipRound       |

Table I.51: All CSEEM Results of classification problems (51/83).

| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | lymphography | 55.999   | 0.838    | 8     | 79  | Sin           | ClipRound       |
| 4   | CSEEM  | lymphography | 31.999   | 0.872    | 16    | 71  | Sin           | ClipRound       |
| 4   | CSEEM  | lymphography | 220.998  | 0.858    | 32    | 67  | Sin           | ClipRound       |
| 5   | CSEEM  | lymphography | 46.0     | 0.926    | 8     | 45  | Tanh          | ClipRound       |
| 5   | CSEEM  | lymphography | 21.998   | 0.905    | 16    | 39  | Tanh          | ClipRound       |
| 5   | CSEEM  | lymphography | 50.0     | 0.905    | 32    | 38  | Tanh          | ClipRound       |
| 5   | CSEEM  | lymphography | 24.999   | 0.892    | 8     | 33  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | lymphography | 38.999   | 0.939    | 16    | 39  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | lymphography | 98.999   | 0.939    | 32    | 52  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | lymphography | 57.998   | 0.926    | 8     | 48  | Relu          | ClipRound       |
| 5   | CSEEM  | lymphography | 28.994   | 0.885    | 16    | 38  | Relu          | ClipRound       |
| 5   | CSEEM  | lymphography | 169.001  | 0.919    | 32    | 36  | Relu          | ClipRound       |
| 5   | CSEEM  | lymphography | 28.0     | 0.912    | 8     | 44  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | lymphography | 71.992   | 0.912    | 16    | 47  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | lymphography | 112.998  | 0.899    | 32    | 38  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | lymphography | 44.999   | 0.797    | 8     | 62  | Sin           | ClipRound       |
| 5   | CSEEM  | lymphography | 108.999  | 0.838    | 16    | 76  | Sin           | ClipRound       |
| 5   | CSEEM  | lymphography | 151.0    | 0.797    | 32    | 59  | Sin           | ClipRound       |
| 1   | CSEEM  | mammographic | 686.999  | 0.889    | 8     | 180 | Tanh          | ClipRound       |
| 1   | CSEEM  | mammographic | 294.999  | 0.894    | 16    | 218 | Tanh          | ClipRound       |
| 1   | CSEEM  | mammographic | 399.0    | 0.896    | 32    | 229 | Tanh          | ClipRound       |
| 1   | CSEEM  | mammographic | 428.999  | 0.875    | 8     | 165 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | mammographic | 243.999  | 0.887    | 16    | 189 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | mammographic | 24.998   | 0.886    | 32    | 187 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | mammographic | 904.998  | 0.899    | 8     | 257 | Relu          | ClipRound       |
| 1   | CSEEM  | mammographic | 692.985  | 0.894    | 16    | 204 | Relu          | ClipRound       |
| 1   | CSEEM  | mammographic | 794.999  | 0.896    | 32    | 223 | Relu          | ClipRound       |
| 1   | CSEEM  | mammographic | 427.001  | 0.901    | 8     | 271 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | mammographic | 595.994  | 0.884    | 16    | 187 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | mammographic | 386.0    | 0.893    | 32    | 208 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | mammographic | 750.0    | 0.889    | 8     | 224 | Sin           | ClipRound       |
| 1   | CSEEM  | mammographic | 434.99   | 0.892    | 16    | 209 | Sin           | ClipRound       |

Table I.52: All CSEEM Results of classification problems (52/83).

| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | mammographic | 293.999  | 0.888    | 32    | 193 | Sin           | ClipRound       |
| 2   | CSEEM  | mammographic | 565.0    | 0.894    | 8     | 223 | Tanh          | ClipRound       |
| 2   | CSEEM  | mammographic | 883.988  | 0.898    | 16    | 241 | Tanh          | ClipRound       |
| 2   | CSEEM  | mammographic | 523.001  | 0.899    | 32    | 243 | Tanh          | ClipRound       |
| 2   | CSEEM  | mammographic | 753.0    | 0.887    | 8     | 159 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | mammographic | 314.395  | 0.902    | 16    | 254 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | mammographic | 533.999  | 0.89     | 32    | 199 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | mammographic | 470.997  | 0.882    | 8     | 162 | Relu          | ClipRound       |
| 2   | CSEEM  | mammographic | 767.994  | 0.893    | 16    | 234 | Relu          | ClipRound       |
| 2   | CSEEM  | mammographic | 581.998  | 0.895    | 32    | 215 | Relu          | ClipRound       |
| 2   | CSEEM  | mammographic | 406.0    | 0.88     | 8     | 156 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | mammographic | 245.035  | 0.9      | 16    | 256 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | mammographic | 804.001  | 0.889    | 32    | 204 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | mammographic | 448.999  | 0.876    | 8     | 159 | Sin           | ClipRound       |
| 2   | CSEEM  | mammographic | 321.007  | 0.88     | 16    | 168 | Sin           | ClipRound       |
| 2   | CSEEM  | mammographic | 318.999  | 0.889    | 32    | 205 | Sin           | ClipRound       |
| 3   | CSEEM  | mammographic | 325.002  | 0.901    | 8     | 276 | Tanh          | ClipRound       |
| 3   | CSEEM  | mammographic | 698.091  | 0.902    | 16    | 238 | Tanh          | ClipRound       |
| 3   | CSEEM  | mammographic | 274.998  | 0.887    | 32    | 190 | Tanh          | ClipRound       |
| 3   | CSEEM  | mammographic | 19.999   | 0.841    | 8     | 38  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | mammographic | 339.521  | 0.888    | 16    | 202 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | mammographic | 491.999  | 0.898    | 32    | 239 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | mammographic | 502.997  | 0.895    | 8     | 215 | Relu          | ClipRound       |
| 3   | CSEEM  | mammographic | 26.263   | 0.89     | 16    | 172 | Relu          | ClipRound       |
| 3   | CSEEM  | mammographic | 119.0    | 0.887    | 32    | 187 | Relu          | ClipRound       |
| 3   | CSEEM  | mammographic | 295.998  | 0.886    | 8     | 192 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | mammographic | 558.017  | 0.886    | 16    | 208 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | mammographic | 3.0      | 0.89     | 32    | 211 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | mammographic | 14.513   | 0.896    | 8     | 238 | Sin           | ClipRound       |
| 3   | CSEEM  | mammographic | 617.993  | 0.884    | 16    | 181 | Sin           | ClipRound       |
| 3   | CSEEM  | mammographic | 523.0    | 0.893    | 32    | 241 | Sin           | ClipRound       |
| 4   | CSEEM  | mammographic | 698.998  | 0.888    | 8     | 223 | Tanh          | ClipRound       |

Table I.53: All CSEEM Results of classification problems (53/83).

| Run | Method | Dataset      | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|--------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | mammographic | 261.996  | 0.9      | 16    | 262 | Tanh          | ClipRound       |
| 4   | CSEEM  | mammographic | 167.999  | 0.902    | 32    | 268 | Tanh          | ClipRound       |
| 4   | CSEEM  | mammographic | 295.998  | 0.893    | 8     | 227 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | mammographic | 653.0    | 0.884    | 16    | 195 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | mammographic | 727.997  | 0.883    | 32    | 187 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | mammographic | 575.0    | 0.896    | 8     | 240 | Relu          | ClipRound       |
| 4   | CSEEM  | mammographic | 474.002  | 0.892    | 16    | 210 | Relu          | ClipRound       |
| 4   | CSEEM  | mammographic | 501.997  | 0.9      | 32    | 240 | Relu          | ClipRound       |
| 4   | CSEEM  | mammographic | 454.999  | 0.9      | 8     | 251 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | mammographic | 111.998  | 0.884    | 16    | 209 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | mammographic | 469.998  | 0.898    | 32    | 250 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | mammographic | 931.999  | 0.888    | 8     | 205 | Sin           | ClipRound       |
| 4   | CSEEM  | mammographic | 394.001  | 0.898    | 16    | 259 | Sin           | ClipRound       |
| 4   | CSEEM  | mammographic | 993.0    | 0.892    | 32    | 189 | Sin           | ClipRound       |
| 5   | CSEEM  | mammographic | 859.996  | 0.899    | 8     | 259 | Tanh          | ClipRound       |
| 5   | CSEEM  | mammographic | 749.999  | 0.893    | 16    | 236 | Tanh          | ClipRound       |
| 5   | CSEEM  | mammographic | 6.999    | 0.9      | 32    | 247 | Tanh          | ClipRound       |
| 5   | CSEEM  | mammographic | 290.0    | 0.898    | 8     | 264 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | mammographic | 516.0    | 0.892    | 16    | 214 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | mammographic | 127.998  | 0.893    | 32    | 209 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | mammographic | 958.0    | 0.888    | 8     | 226 | Relu          | ClipRound       |
| 5   | CSEEM  | mammographic | 106.0    | 0.9      | 16    | 243 | Relu          | ClipRound       |
| 5   | CSEEM  | mammographic | 234.999  | 0.894    | 32    | 200 | Relu          | ClipRound       |
| 5   | CSEEM  | mammographic | 603.0    | 0.894    | 8     | 223 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | mammographic | 161.994  | 0.893    | 16    | 227 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | mammographic | 931.001  | 0.894    | 32    | 243 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | mammographic | 648.999  | 0.894    | 8     | 250 | Sin           | ClipRound       |
| 5   | CSEEM  | mammographic | 970.003  | 0.888    | 16    | 192 | Sin           | ClipRound       |
| 5   | CSEEM  | mammographic | 799.998  | 0.892    | 32    | 189 | Sin           | ClipRound       |
| 1   | CSEEM  | monk_2       | 152.999  | 0.981    | 8     | 97  | Tanh          | ClipRound       |
| 1   | CSEEM  | monk_2       | 358.999  | 0.975    | 16    | 79  | Tanh          | ClipRound       |
| 1   | CSEEM  | monk_2       | 627.998  | 0.984    | 32    | 67  | Tanh          | ClipRound       |

Table I.54: All CSEEM Results of classification problems (54/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | monk_2  | 44.999   | 0.977    | 8     | 56  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | monk_2  | 463.001  | 0.988    | 16    | 69  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | monk_2  | 175.0    | 0.991    | 32    | 64  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | monk_2  | 75.997   | 0.979    | 8     | 52  | Relu          | ClipRound       |
| 1   | CSEEM  | monk_2  | 256.999  | 0.991    | 16    | 53  | Relu          | ClipRound       |
| 1   | CSEEM  | monk_2  | 988.998  | 0.995    | 32    | 66  | Relu          | ClipRound       |
| 1   | CSEEM  | monk_2  | 290.999  | 0.979    | 8     | 84  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | monk_2  | 138.991  | 0.993    | 16    | 66  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | monk_2  | 124.0    | 0.988    | 32    | 51  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | monk_2  | 167.997  | 0.972    | 8     | 103 | Sin           | ClipRound       |
| 1   | CSEEM  | monk_2  | 442.988  | 0.988    | 16    | 112 | Sin           | ClipRound       |
| 1   | CSEEM  | monk_2  | 705.507  | 0.977    | 32    | 88  | Sin           | ClipRound       |
| 2   | CSEEM  | monk_2  | 250.001  | 0.977    | 8     | 87  | Tanh          | ClipRound       |
| 2   | CSEEM  | monk_2  | 416.992  | 0.972    | 16    | 36  | Tanh          | ClipRound       |
| 2   | CSEEM  | monk_2  | 402.999  | 0.981    | 32    | 58  | Tanh          | ClipRound       |
| 2   | CSEEM  | monk_2  | 466.999  | 0.995    | 8     | 67  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | monk_2  | 344.999  | 0.988    | 16    | 58  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | monk_2  | 292.0    | 0.984    | 32    | 63  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | monk_2  | 328.0    | 0.988    | 8     | 52  | Relu          | ClipRound       |
| 2   | CSEEM  | monk_2  | 489.995  | 0.981    | 16    | 41  | Relu          | ClipRound       |
| 2   | CSEEM  | monk_2  | 835.999  | 0.986    | 32    | 55  | Relu          | ClipRound       |
| 2   | CSEEM  | monk_2  | 121.0    | 0.984    | 8     | 81  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | monk_2  | 818.735  | 0.986    | 16    | 83  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | monk_2  | 826.003  | 0.995    | 32    | 83  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | monk_2  | 127.999  | 0.958    | 8     | 101 | Sin           | ClipRound       |
| 2   | CSEEM  | monk_2  | 303.988  | 0.963    | 16    | 65  | Sin           | ClipRound       |
| 2   | CSEEM  | monk_2  | 325.999  | 0.988    | 32    | 107 | Sin           | ClipRound       |
| 3   | CSEEM  | monk_2  | 385.999  | 0.956    | 8     | 33  | Tanh          | ClipRound       |
| 3   | CSEEM  | monk_2  | 134.997  | 0.998    | 16    | 78  | Tanh          | ClipRound       |
| 3   | CSEEM  | monk_2  | 512.51   | 0.979    | 32    | 59  | Tanh          | ClipRound       |
| 3   | CSEEM  | monk_2  | 294.999  | 0.991    | 8     | 64  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | monk_2  | 380.001  | 0.984    | 16    | 40  | SoftRelu      | ClipRound       |

Table I.55: All CSEEM Results of classification problems (55/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | monk_2  | 838.999  | 1        | 32    | 40  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | monk_2  | 148.0    | 0.984    | 8     | 42  | Relu          | ClipRound       |
| 3   | CSEEM  | monk_2  | 252.503  | 0.991    | 16    | 44  | Relu          | ClipRound       |
| 3   | CSEEM  | monk_2  | 692.999  | 0.998    | 32    | 66  | Relu          | ClipRound       |
| 3   | CSEEM  | monk_2  | 334.997  | 0.991    | 8     | 77  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | monk_2  | 372.992  | 0.988    | 16    | 68  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | monk_2  | 428.997  | 0.97     | 32    | 37  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | monk_2  | 218.998  | 0.961    | 8     | 95  | Sin           | ClipRound       |
| 3   | CSEEM  | monk_2  | 815.998  | 0.986    | 16    | 110 | Sin           | ClipRound       |
| 3   | CSEEM  | monk_2  | 303.999  | 0.968    | 32    | 88  | Sin           | ClipRound       |
| 4   | CSEEM  | monk_2  | 265.0    | 0.993    | 8     | 110 | Tanh          | ClipRound       |
| 4   | CSEEM  | monk_2  | 454.988  | 0.986    | 16    | 83  | Tanh          | ClipRound       |
| 4   | CSEEM  | monk_2  | 54.999   | 0.984    | 32    | 89  | Tanh          | ClipRound       |
| 4   | CSEEM  | monk_2  | 192.998  | 0.984    | 8     | 47  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | monk_2  | 381.007  | 0.984    | 16    | 45  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | monk_2  | 737.999  | 0.986    | 32    | 45  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | monk_2  | 287.0    | 0.993    | 8     | 66  | Relu          | ClipRound       |
| 4   | CSEEM  | monk_2  | 863.512  | 0.986    | 16    | 62  | Relu          | ClipRound       |
| 4   | CSEEM  | monk_2  | 439.997  | 0.991    | 32    | 56  | Relu          | ClipRound       |
| 4   | CSEEM  | monk_2  | 153.999  | 0.981    | 8     | 87  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | monk_2  | 455.0    | 0.998    | 16    | 69  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | monk_2  | 494.0    | 0.998    | 32    | 68  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | monk_2  | 851.999  | 0.979    | 8     | 93  | Sin           | ClipRound       |
| 4   | CSEEM  | monk_2  | 157.0    | 0.993    | 16    | 118 | Sin           | ClipRound       |
| 4   | CSEEM  | monk_2  | 450.0    | 0.97     | 32    | 89  | Sin           | ClipRound       |
| 5   | CSEEM  | monk_2  | 125.0    | 0.979    | 8     | 95  | Tanh          | ClipRound       |
| 5   | CSEEM  | monk_2  | 11.0     | 0.991    | 16    | 60  | Tanh          | ClipRound       |
| 5   | CSEEM  | monk_2  | 810.999  | 0.972    | 32    | 65  | Tanh          | ClipRound       |
| 5   | CSEEM  | monk_2  | 186.997  | 0.981    | 8     | 36  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | monk_2  | 595.0    | 0.988    | 16    | 60  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | monk_2  | 582.0    | 0.984    | 32    | 56  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | monk_2  | 73.0     | 0.975    | 8     | 20  | Relu          | ClipRound       |

Table I.56: All CSEEM Results of classification problems (56/83).



| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | monk_2     | 61.992   | 0.984    | 16    | 39  | Relu          | ClipRound       |
| 5   | CSEEM  | monk_2     | 457.999  | 0.979    | 32    | 20  | Relu          | ClipRound       |
| 5   | CSEEM  | monk_2     | 158.003  | 0.975    | 8     | 59  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | monk_2     | 425.992  | 0.993    | 16    | 71  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | monk_2     | 905.999  | 0.995    | 32    | 75  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | monk_2     | 99.0     | 0.972    | 8     | 109 | Sin           | ClipRound       |
| 5   | CSEEM  | monk_2     | 641.992  | 0.977    | 16    | 113 | Sin           | ClipRound       |
| 5   | CSEEM  | monk_2     | 50.0     | 0.972    | 32    | 81  | Sin           | ClipRound       |
| 1   | CSEEM  | newthyroid | 10.999   | 0.935    | 8     | 5   | Tanh          | ClipRound       |
| 1   | CSEEM  | newthyroid | 78.999   | 0.967    | 16    | 28  | Tanh          | ClipRound       |
| 1   | CSEEM  | newthyroid | 228.999  | 0.986    | 32    | 36  | Tanh          | ClipRound       |
| 1   | CSEEM  | newthyroid | 56.0     | 0.977    | 8     | 34  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | newthyroid | 97.0     | 0.972    | 16    | 32  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | newthyroid | 159.999  | 0.981    | 32    | 36  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | newthyroid | 90.0     | 0.991    | 8     | 56  | Relu          | ClipRound       |
| 1   | CSEEM  | newthyroid | 181.99   | 0.981    | 16    | 34  | Relu          | ClipRound       |
| 1   | CSEEM  | newthyroid | 173.998  | 0.977    | 32    | 38  | Relu          | ClipRound       |
| 1   | CSEEM  | newthyroid | 11.999   | 0.972    | 8     | 33  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | newthyroid | 130.004  | 0.977    | 16    | 31  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | newthyroid | 193.0    | 0.972    | 32    | 28  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | newthyroid | 37.999   | 0.958    | 8     | 35  | Sin           | ClipRound       |
| 1   | CSEEM  | newthyroid | 95.997   | 0.963    | 16    | 43  | Sin           | ClipRound       |
| 1   | CSEEM  | newthyroid | 155.0    | 0.963    | 32    | 32  | Sin           | ClipRound       |
| 2   | CSEEM  | newthyroid | 56.999   | 0.972    | 8     | 29  | Tanh          | ClipRound       |
| 2   | CSEEM  | newthyroid | 207.01   | 0.981    | 16    | 31  | Tanh          | ClipRound       |
| 2   | CSEEM  | newthyroid | 71.0     | 0.977    | 32    | 34  | Tanh          | ClipRound       |
| 2   | CSEEM  | newthyroid | 33.0     | 0.953    | 8     | 31  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | newthyroid | 171.009  | 0.986    | 16    | 41  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | newthyroid | 247.999  | 0.972    | 32    | 23  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | newthyroid | 46.999   | 0.977    | 8     | 43  | Relu          | ClipRound       |
| 2   | CSEEM  | newthyroid | 95.997   | 0.972    | 16    | 30  | Relu          | ClipRound       |
| 2   | CSEEM  | newthyroid | 231.001  | 0.977    | 32    | 36  | Relu          | ClipRound       |

Table I.57: All CSEEM Results of classification problems (57/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | newthyroid | 68.002   | 0.967    | 8     | 28  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | newthyroid | 151.99   | 0.981    | 16    | 39  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | newthyroid | 232.999  | 0.977    | 32    | 25  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | newthyroid | 36.999   | 0.916    | 8     | 22  | Sin           | ClipRound       |
| 2   | CSEEM  | newthyroid | 68.993   | 0.972    | 16    | 45  | Sin           | ClipRound       |
| 2   | CSEEM  | newthyroid | 202.998  | 0.972    | 32    | 34  | Sin           | ClipRound       |
| 3   | CSEEM  | newthyroid | 45.0     | 0.972    | 8     | 27  | Tanh          | ClipRound       |
| 3   | CSEEM  | newthyroid | 184.01   | 0.972    | 16    | 29  | Tanh          | ClipRound       |
| 3   | CSEEM  | newthyroid | 190.0    | 0.981    | 32    | 38  | Tanh          | ClipRound       |
| 3   | CSEEM  | newthyroid | 29.0     | 0.977    | 8     | 29  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | newthyroid | 44.999   | 0.986    | 16    | 34  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | newthyroid | 100.999  | 0.986    | 32    | 35  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | newthyroid | 38.0     | 0.977    | 8     | 34  | Relu          | ClipRound       |
| 3   | CSEEM  | newthyroid | 248.882  | 0.991    | 16    | 40  | Relu          | ClipRound       |
| 3   | CSEEM  | newthyroid | 223.999  | 0.977    | 32    | 34  | Relu          | ClipRound       |
| 3   | CSEEM  | newthyroid | 45.998   | 0.972    | 8     | 39  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | newthyroid | 60.998   | 0.977    | 16    | 39  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | newthyroid | 227.997  | 0.972    | 32    | 23  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | newthyroid | 31.001   | 0.953    | 8     | 33  | Sin           | ClipRound       |
| 3   | CSEEM  | newthyroid | 235.003  | 0.963    | 16    | 42  | Sin           | ClipRound       |
| 3   | CSEEM  | newthyroid | 514.998  | 0.981    | 32    | 42  | Sin           | ClipRound       |
| 4   | CSEEM  | newthyroid | 116.998  | 0.967    | 8     | 35  | Tanh          | ClipRound       |
| 4   | CSEEM  | newthyroid | 177.0    | 0.986    | 16    | 41  | Tanh          | ClipRound       |
| 4   | CSEEM  | newthyroid | 173.998  | 0.981    | 32    | 35  | Tanh          | ClipRound       |
| 4   | CSEEM  | newthyroid | 82.001   | 0.986    | 8     | 44  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | newthyroid | 66.006   | 0.972    | 16    | 40  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | newthyroid | 452.998  | 0.986    | 32    | 34  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | newthyroid | 60.998   | 0.977    | 8     | 38  | Relu          | ClipRound       |
| 4   | CSEEM  | newthyroid | 131.997  | 0.977    | 16    | 30  | Relu          | ClipRound       |
| 4   | CSEEM  | newthyroid | 175.0    | 0.981    | 32    | 40  | Relu          | ClipRound       |
| 4   | CSEEM  | newthyroid | 55.999   | 0.972    | 8     | 41  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | newthyroid | 125.999  | 0.977    | 16    | 38  | Sigmoid       | ClipRound       |

Table I.58: All CSEEM Results of classification problems (58/83).

| Run | Method | Dataset    | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | newthyroid | 200.001  | 0.986    | 32    | 34  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | newthyroid | 77.999   | 0.972    | 8     | 42  | Sin           | ClipRound       |
| 4   | CSEEM  | newthyroid | 52.999   | 0.967    | 16    | 44  | Sin           | ClipRound       |
| 4   | CSEEM  | newthyroid | 176.999  | 0.958    | 32    | 42  | Sin           | ClipRound       |
| 5   | CSEEM  | newthyroid | 84.999   | 0.986    | 8     | 44  | Tanh          | ClipRound       |
| 5   | CSEEM  | newthyroid | 160.001  | 0.977    | 16    | 36  | Tanh          | ClipRound       |
| 5   | CSEEM  | newthyroid | 258.999  | 0.981    | 32    | 31  | Tanh          | ClipRound       |
| 5   | CSEEM  | newthyroid | 69.999   | 0.981    | 8     | 39  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | newthyroid | 99.999   | 0.972    | 16    | 33  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | newthyroid | 182.0    | 0.977    | 32    | 23  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | newthyroid | 57.998   | 0.981    | 8     | 31  | Relu          | ClipRound       |
| 5   | CSEEM  | newthyroid | 111.999  | 0.981    | 16    | 44  | Relu          | ClipRound       |
| 5   | CSEEM  | newthyroid | 311.999  | 0.972    | 32    | 25  | Relu          | ClipRound       |
| 5   | CSEEM  | newthyroid | 59.0     | 0.972    | 8     | 28  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | newthyroid | 125.992  | 0.963    | 16    | 23  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | newthyroid | 318.999  | 0.977    | 32    | 37  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | newthyroid | 51.999   | 0.967    | 8     | 41  | Sin           | ClipRound       |
| 5   | CSEEM  | newthyroid | 110.994  | 0.972    | 16    | 41  | Sin           | ClipRound       |
| 5   | CSEEM  | newthyroid | 270.999  | 0.981    | 32    | 40  | Sin           | ClipRound       |
| 1   | CSEEM  | pima       | 115.507  | 0.888    | 8     | 236 | Tanh          | ClipRound       |
| 1   | CSEEM  | pima       | 947.0    | 0.905    | 16    | 263 | Tanh          | ClipRound       |
| 1   | CSEEM  | pima       | 488.999  | 0.905    | 32    | 297 | Tanh          | ClipRound       |
| 1   | CSEEM  | pima       | 154.0    | 0.887    | 8     | 238 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | pima       | 878.009  | 0.888    | 16    | 258 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | pima       | 402.999  | 0.888    | 32    | 238 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | pima       | 543.999  | 0.896    | 8     | 280 | Relu          | ClipRound       |
| 1   | CSEEM  | pima       | 156.993  | 0.883    | 16    | 213 | Relu          | ClipRound       |
| 1   | CSEEM  | pima       | 390.999  | 0.914    | 32    | 284 | Relu          | ClipRound       |
| 1   | CSEEM  | pima       | 580.0    | 0.893    | 8     | 262 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | pima       | 616.992  | 0.889    | 16    | 247 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | pima       | 592.0    | 0.879    | 32    | 216 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | pima       | 737.0    | 0.887    | 8     | 274 | Sin           | ClipRound       |

Table I.59: All CSEEM Results of classification problems (59/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | pima    | 752.992  | 0.924    | 16    | 329 | Sin           | ClipRound       |
| 1   | CSEEM  | pima    | 491.999  | 0.896    | 32    | 299 | Sin           | ClipRound       |
| 2   | CSEEM  | pima    | 704.511  | 0.914    | 8     | 302 | Tanh          | ClipRound       |
| 2   | CSEEM  | pima    | 843.022  | 0.883    | 16    | 217 | Tanh          | ClipRound       |
| 2   | CSEEM  | pima    | 914.999  | 0.898    | 32    | 273 | Tanh          | ClipRound       |
| 2   | CSEEM  | pima    | 505.999  | 0.879    | 8     | 232 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | pima    | 222.002  | 0.901    | 16    | 305 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | pima    | 679.999  | 0.882    | 32    | 226 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | pima    | 308.998  | 0.891    | 8     | 275 | Relu          | ClipRound       |
| 2   | CSEEM  | pima    | 547.2    | 0.888    | 16    | 251 | Relu          | ClipRound       |
| 2   | CSEEM  | pima    | 809.996  | 0.887    | 32    | 258 | Relu          | ClipRound       |
| 2   | CSEEM  | pima    | 460.001  | 0.878    | 8     | 230 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | pima    | 586.02   | 0.888    | 16    | 255 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | pima    | 279.001  | 0.88     | 32    | 216 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | pima    | 863.998  | 0.895    | 8     | 313 | Sin           | ClipRound       |
| 2   | CSEEM  | pima    | 37.993   | 0.872    | 16    | 225 | Sin           | ClipRound       |
| 2   | CSEEM  | pima    | 685.0    | 0.879    | 32    | 245 | Sin           | ClipRound       |
| 3   | CSEEM  | pima    | 13.0     | 0.897    | 8     | 276 | Tanh          | ClipRound       |
| 3   | CSEEM  | pima    | 981.992  | 0.897    | 16    | 272 | Tanh          | ClipRound       |
| 3   | CSEEM  | pima    | 255.0    | 0.876    | 32    | 217 | Tanh          | ClipRound       |
| 3   | CSEEM  | pima    | 27.999   | 0.914    | 8     | 330 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | pima    | 901.537  | 0.882    | 16    | 232 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | pima    | 622.016  | 0.884    | 32    | 247 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | pima    | 126.0    | 0.839    | 8     | 120 | Relu          | ClipRound       |
| 3   | CSEEM  | pima    | 110.348  | 0.892    | 16    | 227 | Relu          | ClipRound       |
| 3   | CSEEM  | pima    | 158.999  | 0.897    | 32    | 255 | Relu          | ClipRound       |
| 3   | CSEEM  | pima    | 637.998  | 0.908    | 8     | 283 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | pima    | 913.103  | 0.885    | 16    | 243 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | pima    | 81.509   | 0.893    | 32    | 246 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | pima    | 874.998  | 0.895    | 8     | 291 | Sin           | ClipRound       |
| 3   | CSEEM  | pima    | 733.002  | 0.858    | 16    | 236 | Sin           | ClipRound       |
| 3   | CSEEM  | pima    | 585.0    | 0.88     | 32    | 275 | Sin           | ClipRound       |

Table I.60: All CSEEM Results of classification problems (60/83).

| Run | Method | Dataset        | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|----------------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | pima           | 524.998  | 0.891    | 8     | 274 | Tanh          | ClipRound       |
| 4   | CSEEM  | pima           | 213.001  | 0.863    | 16    | 193 | Tanh          | ClipRound       |
| 4   | CSEEM  | pima           | 188.998  | 0.897    | 32    | 247 | Tanh          | ClipRound       |
| 4   | CSEEM  | pima           | 473.0    | 0.883    | 8     | 267 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | pima           | 869.993  | 0.91     | 16    | 284 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | pima           | 406.001  | 0.895    | 32    | 251 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | pima           | 399.001  | 0.871    | 8     | 196 | Relu          | ClipRound       |
| 4   | CSEEM  | pima           | 560.998  | 0.888    | 16    | 232 | Relu          | ClipRound       |
| 4   | CSEEM  | pima           | 620.0    | 0.897    | 32    | 265 | Relu          | ClipRound       |
| 4   | CSEEM  | pima           | 570.999  | 0.875    | 8     | 204 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | pima           | 391.0    | 0.889    | 16    | 261 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | pima           | 319.999  | 0.897    | 32    | 249 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | pima           | 412.998  | 0.865    | 8     | 252 | Sin           | ClipRound       |
| 4   | CSEEM  | pima           | 534.0    | 0.879    | 16    | 239 | Sin           | ClipRound       |
| 4   | CSEEM  | pima           | 245.0    | 0.898    | 32    | 303 | Sin           | ClipRound       |
| 5   | CSEEM  | pima           | 324.0    | 0.867    | 8     | 203 | Tanh          | ClipRound       |
| 5   | CSEEM  | pima           | 970.998  | 0.887    | 16    | 259 | Tanh          | ClipRound       |
| 5   | CSEEM  | pima           | 633.999  | 0.884    | 32    | 223 | Tanh          | ClipRound       |
| 5   | CSEEM  | pima           | 528.002  | 0.859    | 8     | 184 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | pima           | 420.999  | 0.893    | 16    | 262 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | pima           | 739.999  | 0.889    | 32    | 241 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | pima           | 101.0    | 0.841    | 8     | 141 | Relu          | ClipRound       |
| 5   | CSEEM  | pima           | 544.993  | 0.883    | 16    | 236 | Relu          | ClipRound       |
| 5   | CSEEM  | pima           | 80.999   | 0.898    | 32    | 258 | Relu          | ClipRound       |
| 5   | CSEEM  | pima           | 779.999  | 0.909    | 8     | 290 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | pima           | 239.99   | 0.892    | 16    | 264 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | pima           | 335.999  | 0.902    | 32    | 270 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | pima           | 777.998  | 0.883    | 8     | 300 | Sin           | ClipRound       |
| 5   | CSEEM  | pima           | 239.992  | 0.874    | 16    | 246 | Sin           | ClipRound       |
| 5   | CSEEM  | pima           | 473.998  | 0.904    | 32    | 293 | Sin           | ClipRound       |
| 1   | CSEEM  | post_operative | 8.0      | 0.828    | 8     | 32  | Tanh          | ClipRound       |
| 1   | CSEEM  | post_operative | 22.0     | 0.851    | 16    | 34  | Tanh          | ClipRound       |

Table I.61: All CSEEM Results of classification problems (61/83).

| Run | Method | Dataset        | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|----------------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | post_operative | 47.999   | 0.885    | 32    | 32  | Tanh          | ClipRound       |
| 1   | CSEEM  | post_operative | 8.997    | 0.793    | 8     | 34  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | post_operative | 10.999   | 0.828    | 16    | 36  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | post_operative | 62.0     | 0.816    | 32    | 31  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | post_operative | 10.0     | 0.793    | 8     | 29  | Relu          | ClipRound       |
| 1   | CSEEM  | post_operative | 42.999   | 0.885    | 16    | 44  | Relu          | ClipRound       |
| 1   | CSEEM  | post_operative | 44.0     | 0.862    | 32    | 35  | Relu          | ClipRound       |
| 1   | CSEEM  | post_operative | 13.999   | 0.874    | 8     | 40  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | post_operative | 33.994   | 0.874    | 16    | 29  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | post_operative | 30.0     | 0.828    | 32    | 32  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | post_operative | 8.0      | 0.782    | 8     | 29  | Sin           | ClipRound       |
| 1   | CSEEM  | post_operative | 28.999   | 0.851    | 16    | 38  | Sin           | ClipRound       |
| 1   | CSEEM  | post_operative | 84.998   | 0.92     | 32    | 40  | Sin           | ClipRound       |
| 2   | CSEEM  | post_operative | 17.0     | 0.805    | 8     | 29  | Tanh          | ClipRound       |
| 2   | CSEEM  | post_operative | 22.0     | 0.874    | 16    | 42  | Tanh          | ClipRound       |
| 2   | CSEEM  | post_operative | 77.999   | 0.828    | 32    | 33  | Tanh          | ClipRound       |
| 2   | CSEEM  | post_operative | 23.001   | 0.839    | 8     | 32  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | post_operative | 24.007   | 0.828    | 16    | 33  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | post_operative | 64.999   | 0.92     | 32    | 46  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | post_operative | 17.0     | 0.839    | 8     | 35  | Relu          | ClipRound       |
| 2   | CSEEM  | post_operative | 26.006   | 0.839    | 16    | 39  | Relu          | ClipRound       |
| 2   | CSEEM  | post_operative | 59.001   | 0.828    | 32    | 32  | Relu          | ClipRound       |
| 2   | CSEEM  | post_operative | 12.0     | 0.874    | 8     | 38  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | post_operative | 18.998   | 0.805    | 16    | 27  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | post_operative | 59.001   | 0.793    | 32    | 29  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | post_operative | 5.001    | 0.77     | 8     | 15  | Sin           | ClipRound       |
| 2   | CSEEM  | post_operative | 20.999   | 0.805    | 16    | 29  | Sin           | ClipRound       |
| 2   | CSEEM  | post_operative | 44.001   | 0.839    | 32    | 31  | Sin           | ClipRound       |
| 3   | CSEEM  | post_operative | 13.999   | 0.908    | 8     | 42  | Tanh          | ClipRound       |
| 3   | CSEEM  | post_operative | 12.999   | 0.782    | 16    | 20  | Tanh          | ClipRound       |
| 3   | CSEEM  | post_operative | 65.001   | 0.851    | 32    | 31  | Tanh          | ClipRound       |
| 3   | CSEEM  | post_operative | 11.0     | 0.805    | 8     | 28  | SoftRelu      | ClipRound       |

Table I.62: All CSEEM Results of classification problems (62/83).

| Run | Method | Dataset        | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|----------------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | post_operative | 23.005   | 0.851    | 16    | 40  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | post_operative | 75.999   | 0.862    | 32    | 38  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | post_operative | 17.999   | 0.862    | 8     | 39  | Relu          | ClipRound       |
| 3   | CSEEM  | post_operative | 21.0     | 0.793    | 16    | 16  | Relu          | ClipRound       |
| 3   | CSEEM  | post_operative | 42.999   | 0.874    | 32    | 42  | Relu          | ClipRound       |
| 3   | CSEEM  | post_operative | 15.999   | 0.805    | 8     | 26  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | post_operative | 13.993   | 0.862    | 16    | 31  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | post_operative | 35.0     | 0.874    | 32    | 33  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | post_operative | 7.997    | 0.747    | 8     | 15  | Sin           | ClipRound       |
| 3   | CSEEM  | post_operative | 27.003   | 0.851    | 16    | 23  | Sin           | ClipRound       |
| 3   | CSEEM  | post_operative | 43.0     | 0.805    | 32    | 27  | Sin           | ClipRound       |
| 4   | CSEEM  | post_operative | 6.0      | 0.828    | 8     | 36  | Tanh          | ClipRound       |
| 4   | CSEEM  | post_operative | 44.993   | 0.862    | 16    | 34  | Tanh          | ClipRound       |
| 4   | CSEEM  | post_operative | 62.999   | 0.816    | 32    | 33  | Tanh          | ClipRound       |
| 4   | CSEEM  | post_operative | 11.998   | 0.793    | 8     | 28  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | post_operative | 14.026   | 0.77     | 16    | 25  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | post_operative | 25.997   | 0.793    | 32    | 30  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | post_operative | 22.997   | 0.851    | 8     | 39  | Relu          | ClipRound       |
| 4   | CSEEM  | post_operative | 12.0     | 0.805    | 16    | 25  | Relu          | ClipRound       |
| 4   | CSEEM  | post_operative | 60.998   | 0.805    | 32    | 29  | Relu          | ClipRound       |
| 4   | CSEEM  | post_operative | 19.0     | 0.862    | 8     | 32  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | post_operative | 10.0     | 0.805    | 16    | 31  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | post_operative | 26.0     | 0.851    | 32    | 37  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | post_operative | 4.999    | 0.736    | 8     | 6   | Sin           | ClipRound       |
| 4   | CSEEM  | post_operative | 23.999   | 0.851    | 16    | 34  | Sin           | ClipRound       |
| 4   | CSEEM  | post_operative | 44.0     | 0.816    | 32    | 25  | Sin           | ClipRound       |
| 5   | CSEEM  | post_operative | 5.998    | 0.885    | 8     | 40  | Tanh          | ClipRound       |
| 5   | CSEEM  | post_operative | 48.999   | 0.862    | 16    | 33  | Tanh          | ClipRound       |
| 5   | CSEEM  | post_operative | 46.999   | 0.862    | 32    | 31  | Tanh          | ClipRound       |
| 5   | CSEEM  | post_operative | 9.0      | 0.839    | 8     | 43  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | post_operative | 23.001   | 0.828    | 16    | 40  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | post_operative | 48.0     | 0.874    | 32    | 40  | SoftRelu      | ClipRound       |

Table I.63: All CSEEM Results of classification problems (63/83).

| Run | Method | Dataset        | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|----------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | post_operative | 6.999    | 0.793    | 8     | 25  | Relu          | ClipRound       |
| 5   | CSEEM  | post_operative | 19.987   | 0.805    | 16    | 33  | Relu          | ClipRound       |
| 5   | CSEEM  | post_operative | 41.0     | 0.793    | 32    | 18  | Relu          | ClipRound       |
| 5   | CSEEM  | post_operative | 20.0     | 0.851    | 8     | 25  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | post_operative | 25.998   | 0.874    | 16    | 36  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | post_operative | 43.0     | 0.885    | 32    | 38  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | post_operative | 13.0     | 0.885    | 8     | 40  | Sin           | ClipRound       |
| 5   | CSEEM  | post_operative | 14.999   | 0.816    | 16    | 25  | Sin           | ClipRound       |
| 5   | CSEEM  | post_operative | 80.999   | 0.897    | 32    | 36  | Sin           | ClipRound       |
| 1   | CSEEM  | saheart        | 320.0    | 0.87     | 8     | 162 | Tanh          | ClipRound       |
| 1   | CSEEM  | saheart        | 342.999  | 0.896    | 16    | 178 | Tanh          | ClipRound       |
| 1   | CSEEM  | saheart        | 186.508  | 0.887    | 32    | 186 | Tanh          | ClipRound       |
| 1   | CSEEM  | saheart        | 504.0    | 0.877    | 8     | 168 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | saheart        | 397.999  | 0.87     | 16    | 185 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | saheart        | 604.999  | 0.868    | 32    | 148 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | saheart        | 307.999  | 0.851    | 8     | 124 | Relu          | ClipRound       |
| 1   | CSEEM  | saheart        | 198.993  | 0.877    | 16    | 158 | Relu          | ClipRound       |
| 1   | CSEEM  | saheart        | 149.999  | 0.868    | 32    | 149 | Relu          | ClipRound       |
| 1   | CSEEM  | saheart        | 149.998  | 0.883    | 8     | 173 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | saheart        | 182.986  | 0.894    | 16    | 214 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | saheart        | 506.999  | 0.89     | 32    | 188 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | saheart        | 270.0    | 0.823    | 8     | 151 | Sin           | ClipRound       |
| 1   | CSEEM  | saheart        | 792.0    | 0.874    | 16    | 192 | Sin           | ClipRound       |
| 1   | CSEEM  | saheart        | 265.999  | 0.846    | 32    | 141 | Sin           | ClipRound       |
| 2   | CSEEM  | saheart        | 275.998  | 0.844    | 8     | 122 | Tanh          | ClipRound       |
| 2   | CSEEM  | saheart        | 357.998  | 0.872    | 16    | 173 | Tanh          | ClipRound       |
| 2   | CSEEM  | saheart        | 292.999  | 0.909    | 32    | 187 | Tanh          | ClipRound       |
| 2   | CSEEM  | saheart        | 440.999  | 0.9      | 8     | 193 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | saheart        | 648.992  | 0.898    | 16    | 187 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | saheart        | 301.999  | 0.892    | 32    | 185 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | saheart        | 367.999  | 0.874    | 8     | 171 | Relu          | ClipRound       |
| 2   | CSEEM  | saheart        | 479.988  | 0.846    | 16    | 138 | Relu          | ClipRound       |

Table I.64: All CSEEM Results of classification problems (64/83).



| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | saheart | 247.999  | 0.877    | 32    | 158 | Relu          | ClipRound       |
| 2   | CSEEM  | saheart | 343.999  | 0.872    | 8     | 173 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | saheart | 180.493  | 0.818    | 16    | 112 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | saheart | 675.999  | 0.887    | 32    | 178 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | saheart | 113.0    | 0.814    | 8     | 148 | Sin           | ClipRound       |
| 2   | CSEEM  | saheart | 564.563  | 0.892    | 16    | 222 | Sin           | ClipRound       |
| 2   | CSEEM  | saheart | 494.0    | 0.87     | 32    | 193 | Sin           | ClipRound       |
| 3   | CSEEM  | saheart | 364.999  | 0.903    | 8     | 192 | Tanh          | ClipRound       |
| 3   | CSEEM  | saheart | 490.99   | 0.87     | 16    | 159 | Tanh          | ClipRound       |
| 3   | CSEEM  | saheart | 494.0    | 0.879    | 32    | 154 | Tanh          | ClipRound       |
| 3   | CSEEM  | saheart | 548.001  | 0.896    | 8     | 189 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | saheart | 273.998  | 0.846    | 16    | 155 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | saheart | 172.999  | 0.859    | 32    | 145 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | saheart | 254.999  | 0.846    | 8     | 97  | Relu          | ClipRound       |
| 3   | CSEEM  | saheart | 666.994  | 0.879    | 16    | 176 | Relu          | ClipRound       |
| 3   | CSEEM  | saheart | 644.0    | 0.874    | 32    | 167 | Relu          | ClipRound       |
| 3   | CSEEM  | saheart | 319.999  | 0.859    | 8     | 157 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | saheart | 576.999  | 0.911    | 16    | 217 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | saheart | 195.999  | 0.861    | 32    | 146 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | saheart | 276.0    | 0.864    | 8     | 176 | Sin           | ClipRound       |
| 3   | CSEEM  | saheart | 546.004  | 0.846    | 16    | 141 | Sin           | ClipRound       |
| 3   | CSEEM  | saheart | 834.001  | 0.896    | 32    | 206 | Sin           | ClipRound       |
| 4   | CSEEM  | saheart | 134.999  | 0.857    | 8     | 158 | Tanh          | ClipRound       |
| 4   | CSEEM  | saheart | 821.992  | 0.877    | 16    | 175 | Tanh          | ClipRound       |
| 4   | CSEEM  | saheart | 597.0    | 0.874    | 32    | 152 | Tanh          | ClipRound       |
| 4   | CSEEM  | saheart | 279.0    | 0.866    | 8     | 181 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | saheart | 715.007  | 0.872    | 16    | 158 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | saheart | 233.999  | 0.9      | 32    | 185 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | saheart | 628.505  | 0.885    | 8     | 170 | Relu          | ClipRound       |
| 4   | CSEEM  | saheart | 71.997   | 0.877    | 16    | 169 | Relu          | ClipRound       |
| 4   | CSEEM  | saheart | 363.999  | 0.905    | 32    | 201 | Relu          | ClipRound       |
| 4   | CSEEM  | saheart | 283.0    | 0.9      | 8     | 196 | Sigmoid       | ClipRound       |

Table I.65: All CSEEM Results of classification problems (65/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | saheart | 620.999  | 0.859    | 16    | 146 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | saheart | 594.999  | 0.885    | 32    | 180 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | saheart | 210.0    | 0.879    | 8     | 214 | Sin           | ClipRound       |
| 4   | CSEEM  | saheart | 355.999  | 0.898    | 16    | 221 | Sin           | ClipRound       |
| 4   | CSEEM  | saheart | 6.998    | 0.866    | 32    | 186 | Sin           | ClipRound       |
| 5   | CSEEM  | saheart | 87.998   | 0.883    | 8     | 161 | Tanh          | ClipRound       |
| 5   | CSEEM  | saheart | 380.999  | 0.861    | 16    | 160 | Tanh          | ClipRound       |
| 5   | CSEEM  | saheart | 698.999  | 0.857    | 32    | 153 | Tanh          | ClipRound       |
| 5   | CSEEM  | saheart | 756.999  | 0.896    | 8     | 202 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | saheart | 892.0    | 0.872    | 16    | 155 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | saheart | 949.999  | 0.872    | 32    | 162 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | saheart | 502.0    | 0.885    | 8     | 169 | Relu          | ClipRound       |
| 5   | CSEEM  | saheart | 215.988  | 0.838    | 16    | 151 | Relu          | ClipRound       |
| 5   | CSEEM  | saheart | 901.998  | 0.861    | 32    | 135 | Relu          | ClipRound       |
| 5   | CSEEM  | saheart | 111.999  | 0.84     | 8     | 132 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | saheart | 30.0     | 0.874    | 16    | 155 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | saheart | 541.999  | 0.866    | 32    | 131 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | saheart | 294.999  | 0.929    | 8     | 230 | Sin           | ClipRound       |
| 5   | CSEEM  | saheart | 741.001  | 0.868    | 16    | 197 | Sin           | ClipRound       |
| 5   | CSEEM  | saheart | 489.998  | 0.861    | 32    | 155 | Sin           | ClipRound       |
| 1   | CSEEM  | tae     | 28.999   | 0.801    | 8     | 66  | Tanh          | ClipRound       |
| 1   | CSEEM  | tae     | 52.001   | 0.834    | 16    | 65  | Tanh          | ClipRound       |
| 1   | CSEEM  | tae     | 107.0    | 0.775    | 32    | 63  | Tanh          | ClipRound       |
| 1   | CSEEM  | tae     | 30.999   | 0.795    | 8     | 76  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | tae     | 41.999   | 0.702    | 16    | 53  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | tae     | 65.0     | 0.861    | 32    | 73  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | tae     | 78.999   | 0.854    | 8     | 79  | Relu          | ClipRound       |
| 1   | CSEEM  | tae     | 28.99    | 0.755    | 16    | 61  | Relu          | ClipRound       |
| 1   | CSEEM  | tae     | 179.0    | 0.788    | 32    | 58  | Relu          | ClipRound       |
| 1   | CSEEM  | tae     | 26.999   | 0.775    | 8     | 72  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | tae     | 92.991   | 0.748    | 16    | 57  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | tae     | 144.997  | 0.808    | 32    | 70  | Sigmoid       | ClipRound       |

Table I.66: All CSEEM Results of classification problems (66/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | tae     | 41.0     | 0.828    | 8     | 79  | Sin           | ClipRound       |
| 1   | CSEEM  | tae     | 166.992  | 0.755    | 16    | 60  | Sin           | ClipRound       |
| 1   | CSEEM  | tae     | 167.999  | 0.815    | 32    | 69  | Sin           | ClipRound       |
| 2   | CSEEM  | tae     | 18.997   | 0.834    | 8     | 69  | Tanh          | ClipRound       |
| 2   | CSEEM  | tae     | 111.992  | 0.828    | 16    | 73  | Tanh          | ClipRound       |
| 2   | CSEEM  | tae     | 155.999  | 0.781    | 32    | 65  | Tanh          | ClipRound       |
| 2   | CSEEM  | tae     | 19.999   | 0.709    | 8     | 59  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | tae     | 57.988   | 0.788    | 16    | 69  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | tae     | 197.0    | 0.841    | 32    | 72  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | tae     | 64.0     | 0.801    | 8     | 68  | Relu          | ClipRound       |
| 2   | CSEEM  | tae     | 65.0     | 0.801    | 16    | 64  | Relu          | ClipRound       |
| 2   | CSEEM  | tae     | 184.999  | 0.854    | 32    | 74  | Relu          | ClipRound       |
| 2   | CSEEM  | tae     | 25.999   | 0.854    | 8     | 74  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | tae     | 86.998   | 0.728    | 16    | 63  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | tae     | 184.999  | 0.762    | 32    | 59  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | tae     | 53.998   | 0.815    | 8     | 73  | Sin           | ClipRound       |
| 2   | CSEEM  | tae     | 138.999  | 0.861    | 16    | 75  | Sin           | ClipRound       |
| 2   | CSEEM  | tae     | 213.999  | 0.834    | 32    | 76  | Sin           | ClipRound       |
| 3   | CSEEM  | tae     | 25.999   | 0.894    | 8     | 92  | Tanh          | ClipRound       |
| 3   | CSEEM  | tae     | 15.996   | 0.775    | 16    | 63  | Tanh          | ClipRound       |
| 3   | CSEEM  | tae     | 149.0    | 0.781    | 32    | 61  | Tanh          | ClipRound       |
| 3   | CSEEM  | tae     | 34.0     | 0.815    | 8     | 71  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | tae     | 119.999  | 0.795    | 16    | 63  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | tae     | 121.999  | 0.788    | 32    | 63  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | tae     | 46.999   | 0.795    | 8     | 58  | Relu          | ClipRound       |
| 3   | CSEEM  | tae     | 27.995   | 0.689    | 16    | 44  | Relu          | ClipRound       |
| 3   | CSEEM  | tae     | 115.0    | 0.861    | 32    | 71  | Relu          | ClipRound       |
| 3   | CSEEM  | tae     | 49.999   | 0.821    | 8     | 74  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | tae     | 69.993   | 0.768    | 16    | 71  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | tae     | 208.999  | 0.821    | 32    | 71  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | tae     | 49.999   | 0.795    | 8     | 72  | Sin           | ClipRound       |
| 3   | CSEEM  | tae     | 94.991   | 0.828    | 16    | 72  | Sin           | ClipRound       |

Table I.67: All CSEEM Results of classification problems (67/83).

| Run | Method | Dataset     | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-------------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | tae         | 125.997  | 0.781    | 32    | 69  | Sin           | ClipRound       |
| 4   | CSEEM  | tae         | 25.0     | 0.762    | 8     | 63  | Tanh          | ClipRound       |
| 4   | CSEEM  | tae         | 99.993   | 0.762    | 16    | 62  | Tanh          | ClipRound       |
| 4   | CSEEM  | tae         | 92.0     | 0.834    | 32    | 71  | Tanh          | ClipRound       |
| 4   | CSEEM  | tae         | 4.998    | 0.517    | 8     | 23  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | tae         | 73.992   | 0.775    | 16    | 70  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | tae         | 137.999  | 0.861    | 32    | 75  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | tae         | 60.999   | 0.748    | 8     | 63  | Relu          | ClipRound       |
| 4   | CSEEM  | tae         | 133.0    | 0.808    | 16    | 65  | Relu          | ClipRound       |
| 4   | CSEEM  | tae         | 167.999  | 0.821    | 32    | 70  | Relu          | ClipRound       |
| 4   | CSEEM  | tae         | 38.999   | 0.775    | 8     | 65  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | tae         | 96.999   | 0.768    | 16    | 65  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | tae         | 148.999  | 0.854    | 32    | 78  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | tae         | 20.999   | 0.576    | 8     | 33  | Sin           | ClipRound       |
| 4   | CSEEM  | tae         | 88.999   | 0.874    | 16    | 77  | Sin           | ClipRound       |
| 4   | CSEEM  | tae         | 154.0    | 0.801    | 32    | 68  | Sin           | ClipRound       |
| 5   | CSEEM  | tae         | 40.999   | 0.755    | 8     | 61  | Tanh          | ClipRound       |
| 5   | CSEEM  | tae         | 129.998  | 0.841    | 16    | 70  | Tanh          | ClipRound       |
| 5   | CSEEM  | tae         | 255.0    | 0.841    | 32    | 72  | Tanh          | ClipRound       |
| 5   | CSEEM  | tae         | 15.0     | 0.795    | 8     | 73  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | tae         | 32.0     | 0.755    | 16    | 67  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | tae         | 75.0     | 0.755    | 32    | 58  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | tae         | 28.0     | 0.828    | 8     | 74  | Relu          | ClipRound       |
| 5   | CSEEM  | tae         | 74.004   | 0.828    | 16    | 69  | Relu          | ClipRound       |
| 5   | CSEEM  | tae         | 140.998  | 0.788    | 32    | 59  | Relu          | ClipRound       |
| 5   | CSEEM  | tae         | 53.999   | 0.821    | 8     | 76  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | tae         | 33.0     | 0.768    | 16    | 57  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | tae         | 114.999  | 0.821    | 32    | 70  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | tae         | 33.999   | 0.742    | 8     | 61  | Sin           | ClipRound       |
| 5   | CSEEM  | tae         | 65.993   | 0.728    | 16    | 64  | Sin           | ClipRound       |
| 5   | CSEEM  | tae         | 114.999  | 0.815    | 32    | 74  | Sin           | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 913.0    | 0.92     | 8     | 328 | Tanh          | ClipRound       |

Table I.68: All CSEEM Results of classification problems (68/83).

| Run | Method | Dataset     | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-------------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | tic_tac_toe | 453.0    | 0.944    | 16    | 361 | Tanh          | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 867.0    | 0.944    | 32    | 326 | Tanh          | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 367.0    | 0.955    | 8     | 218 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 944.999  | 0.962    | 16    | 187 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 775.999  | 0.961    | 32    | 189 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 954.002  | 0.953    | 8     | 243 | Relu          | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 868.993  | 0.96     | 16    | 268 | Relu          | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 563.018  | 0.957    | 32    | 218 | Relu          | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 730.998  | 0.929    | 8     | 260 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 630.0    | 0.915    | 16    | 261 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 44.0     | 0.935    | 32    | 266 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 943.999  | 0.921    | 8     | 387 | Sin           | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 795.992  | 0.912    | 16    | 394 | Sin           | ClipRound       |
| 1   | CSEEM  | tic_tac_toe | 210.0    | 0.93     | 32    | 421 | Sin           | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 629.999  | 0.894    | 8     | 253 | Tanh          | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 783.575  | 0.939    | 16    | 354 | Tanh          | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 442.999  | 0.928    | 32    | 275 | Tanh          | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 398.0    | 0.978    | 8     | 263 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 938.0    | 0.974    | 16    | 240 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 389.999  | 0.954    | 32    | 193 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 308.001  | 0.852    | 8     | 117 | Relu          | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 416.992  | 0.971    | 16    | 249 | Relu          | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 557.999  | 0.971    | 32    | 270 | Relu          | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 736.0    | 0.939    | 8     | 308 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 402.517  | 0.931    | 16    | 294 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 779.998  | 0.952    | 32    | 303 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 378.0    | 0.877    | 8     | 290 | Sin           | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 176.99   | 0.941    | 16    | 391 | Sin           | ClipRound       |
| 2   | CSEEM  | tic_tac_toe | 860.998  | 0.928    | 32    | 413 | Sin           | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 933.997  | 0.922    | 8     | 310 | Tanh          | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 440.992  | 0.948    | 16    | 349 | Tanh          | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 128.999  | 0.939    | 32    | 306 | Tanh          | ClipRound       |

Table I.69: All CSEEM Results of classification problems (69/83).

| Run | Method | Dataset     | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-------------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | tic_tac_toe | 519.0    | 0.972    | 8     | 228 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 243.006  | 0.977    | 16    | 248 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 109.522  | 0.97     | 32    | 214 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 860.0    | 0.962    | 8     | 232 | Relu          | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 481.418  | 0.956    | 16    | 224 | Relu          | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 600.0    | 0.971    | 32    | 255 | Relu          | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 647.999  | 0.938    | 8     | 309 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 359.404  | 0.938    | 16    | 340 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 905.999  | 0.95     | 32    | 305 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 154.0    | 0.789    | 8     | 154 | Sin           | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 935.992  | 0.935    | 16    | 429 | Sin           | ClipRound       |
| 3   | CSEEM  | tic_tac_toe | 322.998  | 0.927    | 32    | 405 | Sin           | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 539.998  | 0.936    | 8     | 355 | Tanh          | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 553.998  | 0.916    | 16    | 273 | Tanh          | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 58.998   | 0.93     | 32    | 326 | Tanh          | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 962.999  | 0.972    | 8     | 225 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 755.999  | 0.958    | 16    | 192 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 885.0    | 0.967    | 32    | 212 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 491.0    | 0.99     | 8     | 308 | Relu          | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 535.999  | 0.965    | 16    | 252 | Relu          | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 362.0    | 0.957    | 32    | 253 | Relu          | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 608.0    | 0.919    | 8     | 278 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 892.0    | 0.941    | 16    | 307 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 797.999  | 0.943    | 32    | 265 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 887.999  | 0.863    | 8     | 273 | Sin           | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 420.0    | 0.922    | 16    | 410 | Sin           | ClipRound       |
| 4   | CSEEM  | tic_tac_toe | 181.999  | 0.93     | 32    | 399 | Sin           | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 822.997  | 0.931    | 8     | 343 | Tanh          | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 575.001  | 0.918    | 16    | 321 | Tanh          | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 352.512  | 0.932    | 32    | 311 | Tanh          | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 932.0    | 0.965    | 8     | 191 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 294.001  | 0.985    | 16    | 294 | SoftRelu      | ClipRound       |

Table I.70: All CSEEM Results of classification problems (70/83).

| Run | Method | Dataset     | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-------------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | tic_tac_toe | 184.999  | 0.973    | 32    | 205 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 429.999  | 0.967    | 8     | 273 | Relu          | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 992.092  | 0.983    | 16    | 310 | Relu          | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 524.999  | 0.96     | 32    | 227 | Relu          | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 382.0    | 0.91     | 8     | 236 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 65.003   | 0.936    | 16    | 305 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 207.999  | 0.935    | 32    | 284 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 631.999  | 0.861    | 8     | 261 | Sin           | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 338.032  | 0.903    | 16    | 336 | Sin           | ClipRound       |
| 5   | CSEEM  | tic_tac_toe | 38.999   | 0.905    | 32    | 353 | Sin           | ClipRound       |
| 1   | CSEEM  | vehicle     | 984.526  | 0.875    | 8     | 267 | Tanh          | ClipRound       |
| 1   | CSEEM  | vehicle     | 230.997  | 0.892    | 16    | 278 | Tanh          | ClipRound       |
| 1   | CSEEM  | vehicle     | 828.533  | 0.885    | 32    | 274 | Tanh          | ClipRound       |
| 1   | CSEEM  | vehicle     | 815.0    | 0.874    | 8     | 183 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | vehicle     | 638.0    | 0.887    | 16    | 208 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | vehicle     | 89.0     | 0.918    | 32    | 272 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | vehicle     | 395.001  | 0.864    | 8     | 166 | Relu          | ClipRound       |
| 1   | CSEEM  | vehicle     | 90.991   | 0.917    | 16    | 278 | Relu          | ClipRound       |
| 1   | CSEEM  | vehicle     | 993.001  | 0.933    | 32    | 280 | Relu          | ClipRound       |
| 1   | CSEEM  | vehicle     | 930.999  | 0.882    | 8     | 238 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | vehicle     | 624.0    | 0.864    | 16    | 221 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | vehicle     | 497.0    | 0.887    | 32    | 270 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | vehicle     | 917.0    | 0.829    | 8     | 486 | Sin           | ClipRound       |
| 1   | CSEEM  | vehicle     | 274.002  | 0.785    | 16    | 450 | Sin           | ClipRound       |
| 1   | CSEEM  | vehicle     | 606.0    | 0.719    | 32    | 397 | Sin           | ClipRound       |
| 2   | CSEEM  | vehicle     | 554.999  | 0.927    | 8     | 351 | Tanh          | ClipRound       |
| 2   | CSEEM  | vehicle     | 783.287  | 0.891    | 16    | 278 | Tanh          | ClipRound       |
| 2   | CSEEM  | vehicle     | 858.0    | 0.887    | 32    | 273 | Tanh          | ClipRound       |
| 2   | CSEEM  | vehicle     | 896.999  | 0.85     | 8     | 153 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | vehicle     | 409.999  | 0.927    | 16    | 281 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | vehicle     | 374.001  | 0.916    | 32    | 277 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | vehicle     | 648.001  | 0.883    | 8     | 206 | Relu          | ClipRound       |

Table I.71: All CSEEM Results of classification problems (71/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | vehicle | 242.999  | 0.91     | 16    | 262 | Relu          | ClipRound       |
| 2   | CSEEM  | vehicle | 767.0    | 0.936    | 32    | 290 | Relu          | ClipRound       |
| 2   | CSEEM  | vehicle | 580.999  | 0.914    | 8     | 304 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | vehicle | 598.996  | 0.896    | 16    | 292 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | vehicle | 937.0    | 0.91     | 32    | 287 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | vehicle | 376.0    | 0.651    | 8     | 350 | Sin           | ClipRound       |
| 2   | CSEEM  | vehicle | 345.461  | 0.818    | 16    | 463 | Sin           | ClipRound       |
| 2   | CSEEM  | vehicle | 196.0    | 0.758    | 32    | 449 | Sin           | ClipRound       |
| 3   | CSEEM  | vehicle | 71.0     | 0.91     | 8     | 306 | Tanh          | ClipRound       |
| 3   | CSEEM  | vehicle | 369.647  | 0.883    | 16    | 268 | Tanh          | ClipRound       |
| 3   | CSEEM  | vehicle | 871.023  | 0.915    | 32    | 309 | Tanh          | ClipRound       |
| 3   | CSEEM  | vehicle | 721.001  | 0.887    | 8     | 194 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | vehicle | 41.134   | 0.908    | 16    | 259 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | vehicle | 509.999  | 0.916    | 32    | 258 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | vehicle | 782.0    | 0.91     | 8     | 258 | Relu          | ClipRound       |
| 3   | CSEEM  | vehicle | 549.82   | 0.905    | 16    | 250 | Relu          | ClipRound       |
| 3   | CSEEM  | vehicle | 327.001  | 0.903    | 32    | 239 | Relu          | ClipRound       |
| 3   | CSEEM  | vehicle | 541.001  | 0.846    | 8     | 218 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | vehicle | 521.014  | 0.891    | 16    | 283 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | vehicle | 420.001  | 0.896    | 32    | 282 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | vehicle | 913.0    | 0.739    | 8     | 403 | Sin           | ClipRound       |
| 3   | CSEEM  | vehicle | 674.989  | 0.634    | 16    | 364 | Sin           | ClipRound       |
| 3   | CSEEM  | vehicle | 466.002  | 0.728    | 32    | 415 | Sin           | ClipRound       |
| 4   | CSEEM  | vehicle | 401.0    | 0.881    | 8     | 240 | Tanh          | ClipRound       |
| 4   | CSEEM  | vehicle | 349.999  | 0.9      | 16    | 295 | Tanh          | ClipRound       |
| 4   | CSEEM  | vehicle | 34.0     | 0.895    | 32    | 295 | Tanh          | ClipRound       |
| 4   | CSEEM  | vehicle | 340.001  | 0.924    | 8     | 274 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | vehicle | 735.999  | 0.917    | 16    | 274 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | vehicle | 405.002  | 0.911    | 32    | 254 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | vehicle | 655.001  | 0.87     | 8     | 212 | Relu          | ClipRound       |
| 4   | CSEEM  | vehicle | 735.998  | 0.902    | 16    | 244 | Relu          | ClipRound       |
| 4   | CSEEM  | vehicle | 124.999  | 0.908    | 32    | 242 | Relu          | ClipRound       |

Table I.72: All CSEEM Results of classification problems (72/83).



| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | vehicle | 782.001  | 0.924    | 8     | 347 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | vehicle | 534.999  | 0.908    | 16    | 295 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | vehicle | 161.999  | 0.896    | 32    | 274 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | vehicle | 546.0    | 0.559    | 8     | 288 | Sin           | ClipRound       |
| 4   | CSEEM  | vehicle | 32.997   | 0.758    | 16    | 425 | Sin           | ClipRound       |
| 4   | CSEEM  | vehicle | 159.0    | 0.762    | 32    | 442 | Sin           | ClipRound       |
| 5   | CSEEM  | vehicle | 634.999  | 0.826    | 8     | 204 | Tanh          | ClipRound       |
| 5   | CSEEM  | vehicle | 346.0    | 0.901    | 16    | 288 | Tanh          | ClipRound       |
| 5   | CSEEM  | vehicle | 350.0    | 0.898    | 32    | 299 | Tanh          | ClipRound       |
| 5   | CSEEM  | vehicle | 78.0     | 0.935    | 8     | 297 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | vehicle | 25.999   | 0.903    | 16    | 239 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | vehicle | 784.999  | 0.931    | 32    | 289 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | vehicle | 237.998  | 0.918    | 8     | 263 | Relu          | ClipRound       |
| 5   | CSEEM  | vehicle | 313.0    | 0.935    | 16    | 282 | Relu          | ClipRound       |
| 5   | CSEEM  | vehicle | 145.998  | 0.934    | 32    | 286 | Relu          | ClipRound       |
| 5   | CSEEM  | vehicle | 584.001  | 0.85     | 8     | 207 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | vehicle | 925.008  | 0.935    | 16    | 340 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | vehicle | 998.001  | 0.883    | 32    | 256 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | vehicle | 25.0     | 0.748    | 8     | 430 | Sin           | ClipRound       |
| 5   | CSEEM  | vehicle | 482.994  | 0.809    | 16    | 467 | Sin           | ClipRound       |
| 5   | CSEEM  | vehicle | 896.511  | 0.716    | 32    | 400 | Sin           | ClipRound       |
| 1   | CSEEM  | vowel   | 32.0     | 0.947    | 8     | 248 | Tanh          | ClipRound       |
| 1   | CSEEM  | vowel   | 545.001  | 0.978    | 16    | 280 | Tanh          | ClipRound       |
| 1   | CSEEM  | vowel   | 319.605  | 0.971    | 32    | 269 | Tanh          | ClipRound       |
| 1   | CSEEM  | vowel   | 812.001  | 0.959    | 8     | 239 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | vowel   | 705.998  | 0.971    | 16    | 273 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | vowel   | 848.001  | 0.96     | 32    | 221 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | vowel   | 252.003  | 0.954    | 8     | 255 | Relu          | ClipRound       |
| 1   | CSEEM  | vowel   | 437.002  | 0.973    | 16    | 259 | Relu          | ClipRound       |
| 1   | CSEEM  | vowel   | 786.999  | 0.913    | 32    | 213 | Relu          | ClipRound       |
| 1   | CSEEM  | vowel   | 154.0    | 0.971    | 8     | 264 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | vowel   | 427.0    | 0.941    | 16    | 227 | Sigmoid       | ClipRound       |

Table I.73: All CSEEM Results of classification problems (73/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | vowel   | 711.999  | 0.947    | 32    | 230 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | vowel   | 295.001  | 0.965    | 8     | 329 | Sin           | ClipRound       |
| 1   | CSEEM  | vowel   | 73.997   | 0.946    | 16    | 312 | Sin           | ClipRound       |
| 1   | CSEEM  | vowel   | 929.001  | 0.943    | 32    | 292 | Sin           | ClipRound       |
| 2   | CSEEM  | vowel   | 177.001  | 0.902    | 8     | 203 | Tanh          | ClipRound       |
| 2   | CSEEM  | vowel   | 438.992  | 0.956    | 16    | 263 | Tanh          | ClipRound       |
| 2   | CSEEM  | vowel   | 480.0    | 0.961    | 32    | 252 | Tanh          | ClipRound       |
| 2   | CSEEM  | vowel   | 450.999  | 0.993    | 8     | 309 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | vowel   | 151.134  | 0.962    | 16    | 248 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | vowel   | 626.999  | 0.949    | 32    | 228 | SoftRelu      | ClipRound       |
| 2   | CSEEM  | vowel   | 939.509  | 0.907    | 8     | 206 | Relu          | ClipRound       |
| 2   | CSEEM  | vowel   | 342.001  | 0.923    | 16    | 215 | Relu          | ClipRound       |
| 2   | CSEEM  | vowel   | 595.001  | 0.967    | 32    | 248 | Relu          | ClipRound       |
| 2   | CSEEM  | vowel   | 548.999  | 0.957    | 8     | 254 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | vowel   | 871.021  | 0.958    | 16    | 255 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | vowel   | 535.0    | 0.965    | 32    | 246 | Sigmoid       | ClipRound       |
| 2   | CSEEM  | vowel   | 522.0    | 0.951    | 8     | 318 | Sin           | ClipRound       |
| 2   | CSEEM  | vowel   | 294.19   | 0.898    | 16    | 273 | Sin           | ClipRound       |
| 2   | CSEEM  | vowel   | 315.001  | 0.925    | 32    | 288 | Sin           | ClipRound       |
| 3   | CSEEM  | vowel   | 373.999  | 0.571    | 8     | 104 | Tanh          | ClipRound       |
| 3   | CSEEM  | vowel   | 386.664  | 0.942    | 16    | 246 | Tanh          | ClipRound       |
| 3   | CSEEM  | vowel   | 105.001  | 0.958    | 32    | 249 | Tanh          | ClipRound       |
| 3   | CSEEM  | vowel   | 339.999  | 0.964    | 8     | 250 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | vowel   | 871.007  | 0.97     | 16    | 249 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | vowel   | 459.0    | 0.958    | 32    | 233 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | vowel   | 362.0    | 0.663    | 8     | 112 | Relu          | ClipRound       |
| 3   | CSEEM  | vowel   | 375.292  | 0.958    | 16    | 246 | Relu          | ClipRound       |
| 3   | CSEEM  | vowel   | 11.016   | 0.974    | 32    | 252 | Relu          | ClipRound       |
| 3   | CSEEM  | vowel   | 227.001  | 0.929    | 8     | 219 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | vowel   | 573.0    | 0.965    | 16    | 271 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | vowel   | 375.0    | 0.951    | 32    | 261 | Sigmoid       | ClipRound       |
| 3   | CSEEM  | vowel   | 374.0    | 0.985    | 8     | 402 | Sin           | ClipRound       |

Table I.74: All CSEEM Results of classification problems (74/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | vowel   | 466.323  | 0.952    | 16    | 321 | Sin           | ClipRound       |
| 3   | CSEEM  | vowel   | 340.997  | 0.987    | 32    | 379 | Sin           | ClipRound       |
| 4   | CSEEM  | vowel   | 492.996  | 0.68     | 8     | 134 | Tanh          | ClipRound       |
| 4   | CSEEM  | vowel   | 924.512  | 0.967    | 16    | 263 | Tanh          | ClipRound       |
| 4   | CSEEM  | vowel   | 166.51   | 0.962    | 32    | 264 | Tanh          | ClipRound       |
| 4   | CSEEM  | vowel   | 498.0    | 0.97     | 8     | 259 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | vowel   | 342.513  | 0.976    | 16    | 278 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | vowel   | 530.0    | 0.965    | 32    | 250 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | vowel   | 433.999  | 0.952    | 8     | 231 | Relu          | ClipRound       |
| 4   | CSEEM  | vowel   | 980.0    | 0.962    | 16    | 240 | Relu          | ClipRound       |
| 4   | CSEEM  | vowel   | 610.001  | 0.947    | 32    | 223 | Relu          | ClipRound       |
| 4   | CSEEM  | vowel   | 405.998  | 0.889    | 8     | 197 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | vowel   | 881.999  | 0.964    | 16    | 250 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | vowel   | 638.0    | 0.976    | 32    | 262 | Sigmoid       | ClipRound       |
| 4   | CSEEM  | vowel   | 521.0    | 0.911    | 8     | 280 | Sin           | ClipRound       |
| 4   | CSEEM  | vowel   | 802.509  | 0.915    | 16    | 299 | Sin           | ClipRound       |
| 4   | CSEEM  | vowel   | 616.0    | 0.957    | 32    | 311 | Sin           | ClipRound       |
| 5   | CSEEM  | vowel   | 737.999  | 0.994    | 8     | 354 | Tanh          | ClipRound       |
| 5   | CSEEM  | vowel   | 276.0    | 0.946    | 16    | 233 | Tanh          | ClipRound       |
| 5   | CSEEM  | vowel   | 60.999   | 0.97     | 32    | 266 | Tanh          | ClipRound       |
| 5   | CSEEM  | vowel   | 110.0    | 0.634    | 8     | 106 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | vowel   | 369.001  | 0.97     | 16    | 267 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | vowel   | 68.001   | 0.951    | 32    | 218 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | vowel   | 343.0    | 0.951    | 8     | 251 | Relu          | ClipRound       |
| 5   | CSEEM  | vowel   | 287.993  | 0.992    | 16    | 362 | Relu          | ClipRound       |
| 5   | CSEEM  | vowel   | 281.0    | 0.954    | 32    | 245 | Relu          | ClipRound       |
| 5   | CSEEM  | vowel   | 90.999   | 0.458    | 8     | 88  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | vowel   | 737.007  | 0.966    | 16    | 260 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | vowel   | 742.0    | 0.96     | 32    | 234 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | vowel   | 364.0    | 0.9      | 8     | 273 | Sin           | ClipRound       |
| 5   | CSEEM  | vowel   | 981.054  | 0.926    | 16    | 304 | Sin           | ClipRound       |
| 5   | CSEEM  | vowel   | 636.999  | 0.935    | 32    | 308 | Sin           | ClipRound       |

Table I.75: All CSEEM Results of classification problems (75/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | wine    | 36.0     | 0.983    | 8     | 41  | Tanh          | ClipRound       |
| 1   | CSEEM  | wine    | 97.001   | 0.966    | 16    | 37  | Tanh          | ClipRound       |
| 1   | CSEEM  | wine    | 115.0    | 0.972    | 32    | 21  | Tanh          | ClipRound       |
| 1   | CSEEM  | wine    | 11.0     | 0.983    | 8     | 35  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | wine    | 62.994   | 0.978    | 16    | 29  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | wine    | 100.0    | 0.966    | 32    | 37  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | wine    | 22.998   | 0.972    | 8     | 38  | Relu          | ClipRound       |
| 1   | CSEEM  | wine    | 41.997   | 0.955    | 16    | 25  | Relu          | ClipRound       |
| 1   | CSEEM  | wine    | 314.0    | 0.972    | 32    | 33  | Relu          | ClipRound       |
| 1   | CSEEM  | wine    | 6.999    | 0.972    | 8     | 44  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | wine    | 91.0     | 0.978    | 16    | 27  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | wine    | 99.0     | 0.978    | 32    | 28  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | wine    | 59.998   | 0.764    | 8     | 92  | Sin           | ClipRound       |
| 1   | CSEEM  | wine    | 61.999   | 0.753    | 16    | 73  | Sin           | ClipRound       |
| 1   | CSEEM  | wine    | 228.999  | 0.787    | 32    | 73  | Sin           | ClipRound       |
| 2   | CSEEM  | wine    | 37.0     | 0.955    | 8     | 35  | Tanh          | ClipRound       |
| 2   | CSEEM  | wine    | 76.991   | 0.966    | 16    | 34  | Tanh          | ClipRound       |
| 2   | CSEEM  | wine    | 112.999  | 0.978    | 32    | 33  | Tanh          | ClipRound       |
| 2   | CSEEM  | wine    | 15.0     | 0.955    | 8     | 31  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | wine    | 47.929   | 0.955    | 16    | 26  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | wine    | 88.998   | 0.983    | 32    | 36  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | wine    | 13.999   | 0.916    | 8     | 22  | Relu          | ClipRound       |
| 2   | CSEEM  | wine    | 86.987   | 0.978    | 16    | 30  | Relu          | ClipRound       |
| 2   | CSEEM  | wine    | 149.999  | 0.961    | 32    | 32  | Relu          | ClipRound       |
| 2   | CSEEM  | wine    | 24.0     | 0.983    | 8     | 32  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | wine    | 126.03   | 0.978    | 16    | 31  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | wine    | 282.997  | 0.978    | 32    | 29  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | wine    | 57.999   | 0.82     | 8     | 84  | Sin           | ClipRound       |
| 2   | CSEEM  | wine    | 143.992  | 0.736    | 16    | 55  | Sin           | ClipRound       |
| 2   | CSEEM  | wine    | 213.999  | 0.77     | 32    | 75  | Sin           | ClipRound       |
| 3   | CSEEM  | wine    | 48.998   | 0.949    | 8     | 29  | Tanh          | ClipRound       |
| 3   | CSEEM  | wine    | 57.99    | 0.927    | 16    | 24  | Tanh          | ClipRound       |

Table I.76: All CSEEM Results of classification problems (76/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | wine    | 197.0    | 0.961    | 32    | 32  | Tanh          | ClipRound       |
| 3   | CSEEM  | wine    | 34.0     | 0.972    | 8     | 29  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | wine    | 46.993   | 0.972    | 16    | 36  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | wine    | 177.0    | 0.972    | 32    | 26  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | wine    | 12.999   | 0.972    | 8     | 35  | Relu          | ClipRound       |
| 3   | CSEEM  | wine    | 40.992   | 0.983    | 16    | 40  | Relu          | ClipRound       |
| 3   | CSEEM  | wine    | 155.999  | 0.966    | 32    | 29  | Relu          | ClipRound       |
| 3   | CSEEM  | wine    | 31.999   | 0.955    | 8     | 30  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | wine    | 116.993  | 0.978    | 16    | 32  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | wine    | 115.0    | 0.972    | 32    | 27  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | wine    | 84.999   | 0.73     | 8     | 75  | Sin           | ClipRound       |
| 3   | CSEEM  | wine    | 113.991  | 0.837    | 16    | 71  | Sin           | ClipRound       |
| 3   | CSEEM  | wine    | 234.999  | 0.82     | 32    | 85  | Sin           | ClipRound       |
| 4   | CSEEM  | wine    | 27.999   | 0.961    | 8     | 38  | Tanh          | ClipRound       |
| 4   | CSEEM  | wine    | 51.006   | 0.966    | 16    | 29  | Tanh          | ClipRound       |
| 4   | CSEEM  | wine    | 240.999  | 0.961    | 32    | 30  | Tanh          | ClipRound       |
| 4   | CSEEM  | wine    | 44.0     | 0.994    | 8     | 37  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | wine    | 56.999   | 0.955    | 16    | 28  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | wine    | 166.0    | 0.989    | 32    | 33  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | wine    | 22.999   | 0.955    | 8     | 34  | Relu          | ClipRound       |
| 4   | CSEEM  | wine    | 92.0     | 0.955    | 16    | 29  | Relu          | ClipRound       |
| 4   | CSEEM  | wine    | 79.999   | 0.961    | 32    | 17  | Relu          | ClipRound       |
| 4   | CSEEM  | wine    | 67.999   | 0.978    | 8     | 29  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | wine    | 77.001   | 0.978    | 16    | 32  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | wine    | 113.999  | 0.972    | 32    | 24  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | wine    | 60.999   | 0.843    | 8     | 92  | Sin           | ClipRound       |
| 4   | CSEEM  | wine    | 139.0    | 0.893    | 16    | 104 | Sin           | ClipRound       |
| 4   | CSEEM  | wine    | 280.999  | 0.815    | 32    | 74  | Sin           | ClipRound       |
| 5   | CSEEM  | wine    | 31.998   | 0.972    | 8     | 32  | Tanh          | ClipRound       |
| 5   | CSEEM  | wine    | 81.999   | 0.972    | 16    | 36  | Tanh          | ClipRound       |
| 5   | CSEEM  | wine    | 206.0    | 0.966    | 32    | 30  | Tanh          | ClipRound       |
| 5   | CSEEM  | wine    | 31.0     | 0.961    | 8     | 30  | SoftRelu      | ClipRound       |

Table I.77: All CSEEM Results of classification problems (77/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | wine      | 74.986   | 0.972    | 16    | 36  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | wine      | 123.997  | 0.972    | 32    | 31  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | wine      | 32.999   | 0.978    | 8     | 31  | Relu          | ClipRound       |
| 5   | CSEEM  | wine      | 58.988   | 0.983    | 16    | 39  | Relu          | ClipRound       |
| 5   | CSEEM  | wine      | 230.999  | 0.983    | 32    | 36  | Relu          | ClipRound       |
| 5   | CSEEM  | wine      | 23.999   | 0.949    | 8     | 30  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | wine      | 58.997   | 0.983    | 16    | 34  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | wine      | 180.999  | 0.972    | 32    | 26  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | wine      | 52.999   | 0.831    | 8     | 86  | Sin           | ClipRound       |
| 5   | CSEEM  | wine      | 119.999  | 0.736    | 16    | 65  | Sin           | ClipRound       |
| 5   | CSEEM  | wine      | 233.999  | 0.798    | 32    | 81  | Sin           | ClipRound       |
| 1   | CSEEM  | wisconsin | 464.999  | 0.982    | 8     | 102 | Tanh          | ClipRound       |
| 1   | CSEEM  | wisconsin | 894.001  | 0.981    | 16    | 89  | Tanh          | ClipRound       |
| 1   | CSEEM  | wisconsin | 764.51   | 0.985    | 32    | 94  | Tanh          | ClipRound       |
| 1   | CSEEM  | wisconsin | 245.0    | 0.98     | 8     | 53  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | wisconsin | 691.999  | 0.982    | 16    | 88  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | wisconsin | 185.0    | 0.988    | 32    | 115 | SoftRelu      | ClipRound       |
| 1   | CSEEM  | wisconsin | 408.0    | 0.98     | 8     | 81  | Relu          | ClipRound       |
| 1   | CSEEM  | wisconsin | 324.0    | 0.981    | 16    | 68  | Relu          | ClipRound       |
| 1   | CSEEM  | wisconsin | 619.999  | 0.984    | 32    | 85  | Relu          | ClipRound       |
| 1   | CSEEM  | wisconsin | 140.999  | 0.974    | 8     | 39  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | wisconsin | 571.994  | 0.982    | 16    | 84  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | wisconsin | 26.999   | 0.985    | 32    | 109 | Sigmoid       | ClipRound       |
| 1   | CSEEM  | wisconsin | 233.001  | 0.93     | 8     | 74  | Sin           | ClipRound       |
| 1   | CSEEM  | wisconsin | 138.993  | 0.977    | 16    | 129 | Sin           | ClipRound       |
| 1   | CSEEM  | wisconsin | 84.0     | 0.969    | 32    | 124 | Sin           | ClipRound       |
| 2   | CSEEM  | wisconsin | 267.0    | 0.985    | 8     | 108 | Tanh          | ClipRound       |
| 2   | CSEEM  | wisconsin | 426.0    | 0.984    | 16    | 90  | Tanh          | ClipRound       |
| 2   | CSEEM  | wisconsin | 201.999  | 0.982    | 32    | 90  | Tanh          | ClipRound       |
| 2   | CSEEM  | wisconsin | 383.0    | 0.978    | 8     | 63  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | wisconsin | 407.0    | 0.978    | 16    | 55  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | wisconsin | 385.998  | 0.981    | 32    | 75  | SoftRelu      | ClipRound       |

Table I.78: All CSEEM Results of classification problems (78/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 2   | CSEEM  | wisconsin | 129.999  | 0.974    | 8     | 47  | Relu          | ClipRound       |
| 2   | CSEEM  | wisconsin | 733.993  | 0.982    | 16    | 88  | Relu          | ClipRound       |
| 2   | CSEEM  | wisconsin | 501.998  | 0.984    | 32    | 82  | Relu          | ClipRound       |
| 2   | CSEEM  | wisconsin | 948.999  | 0.981    | 8     | 89  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | wisconsin | 804.042  | 0.984    | 16    | 92  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | wisconsin | 284.0    | 0.985    | 32    | 88  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | wisconsin | 494.999  | 0.969    | 8     | 148 | Sin           | ClipRound       |
| 2   | CSEEM  | wisconsin | 547.999  | 0.978    | 16    | 127 | Sin           | ClipRound       |
| 2   | CSEEM  | wisconsin | 588.0    | 0.977    | 32    | 129 | Sin           | ClipRound       |
| 3   | CSEEM  | wisconsin | 94.999   | 0.987    | 8     | 62  | Tanh          | ClipRound       |
| 3   | CSEEM  | wisconsin | 767.0    | 0.99     | 16    | 123 | Tanh          | ClipRound       |
| 3   | CSEEM  | wisconsin | 952.508  | 0.981    | 32    | 78  | Tanh          | ClipRound       |
| 3   | CSEEM  | wisconsin | 652.001  | 0.984    | 8     | 103 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | wisconsin | 130.988  | 0.981    | 16    | 77  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | wisconsin | 52.0     | 0.984    | 32    | 102 | SoftRelu      | ClipRound       |
| 3   | CSEEM  | wisconsin | 545.012  | 0.98     | 8     | 61  | Relu          | ClipRound       |
| 3   | CSEEM  | wisconsin | 783.001  | 0.981    | 16    | 84  | Relu          | ClipRound       |
| 3   | CSEEM  | wisconsin | 843.999  | 0.981    | 32    | 83  | Relu          | ClipRound       |
| 3   | CSEEM  | wisconsin | 840.999  | 0.981    | 8     | 93  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | wisconsin | 437.078  | 0.985    | 16    | 91  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | wisconsin | 279.0    | 0.982    | 32    | 88  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | wisconsin | 411.0    | 0.974    | 8     | 130 | Sin           | ClipRound       |
| 3   | CSEEM  | wisconsin | 940.589  | 0.972    | 16    | 134 | Sin           | ClipRound       |
| 3   | CSEEM  | wisconsin | 184.0    | 0.969    | 32    | 114 | Sin           | ClipRound       |
| 4   | CSEEM  | wisconsin | 723.999  | 0.982    | 8     | 75  | Tanh          | ClipRound       |
| 4   | CSEEM  | wisconsin | 509.009  | 0.981    | 16    | 72  | Tanh          | ClipRound       |
| 4   | CSEEM  | wisconsin | 401.998  | 0.984    | 32    | 94  | Tanh          | ClipRound       |
| 4   | CSEEM  | wisconsin | 133.0    | 0.982    | 8     | 102 | SoftRelu      | ClipRound       |
| 4   | CSEEM  | wisconsin | 902.0    | 0.982    | 16    | 96  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | wisconsin | 39.999   | 0.981    | 32    | 67  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | wisconsin | 255.0    | 0.981    | 8     | 90  | Relu          | ClipRound       |
| 4   | CSEEM  | wisconsin | 292.999  | 0.982    | 16    | 75  | Relu          | ClipRound       |

Table I.79: All CSEEM Results of classification problems (79/83).

| Run | Method | Dataset   | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|-----------|----------|----------|-------|-----|---------------|-----------------|
| 4   | CSEEM  | wisconsin | 700.999  | 0.984    | 32    | 94  | Relu          | ClipRound       |
| 4   | CSEEM  | wisconsin | 440.0    | 0.982    | 8     | 86  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | wisconsin | 766.999  | 0.981    | 16    | 40  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | wisconsin | 824.997  | 0.985    | 32    | 80  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | wisconsin | 487.998  | 0.981    | 8     | 144 | Sin           | ClipRound       |
| 4   | CSEEM  | wisconsin | 973.999  | 0.974    | 16    | 115 | Sin           | ClipRound       |
| 4   | CSEEM  | wisconsin | 879.999  | 0.972    | 32    | 107 | Sin           | ClipRound       |
| 5   | CSEEM  | wisconsin | 400.995  | 0.977    | 8     | 48  | Tanh          | ClipRound       |
| 5   | CSEEM  | wisconsin | 330.998  | 0.982    | 16    | 69  | Tanh          | ClipRound       |
| 5   | CSEEM  | wisconsin | 892.999  | 0.984    | 32    | 107 | Tanh          | ClipRound       |
| 5   | CSEEM  | wisconsin | 286.999  | 0.982    | 8     | 63  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | wisconsin | 666.994  | 0.984    | 16    | 93  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | wisconsin | 203.0    | 0.987    | 32    | 113 | SoftRelu      | ClipRound       |
| 5   | CSEEM  | wisconsin | 313.0    | 0.985    | 8     | 114 | Relu          | ClipRound       |
| 5   | CSEEM  | wisconsin | 457.001  | 0.98     | 16    | 92  | Relu          | ClipRound       |
| 5   | CSEEM  | wisconsin | 855.001  | 0.981    | 32    | 89  | Relu          | ClipRound       |
| 5   | CSEEM  | wisconsin | 218.999  | 0.98     | 8     | 66  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | wisconsin | 860.997  | 0.984    | 16    | 102 | Sigmoid       | ClipRound       |
| 5   | CSEEM  | wisconsin | 607.999  | 0.987    | 32    | 86  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | wisconsin | 710.999  | 0.969    | 8     | 142 | Sin           | ClipRound       |
| 5   | CSEEM  | wisconsin | 783.011  | 0.959    | 16    | 97  | Sin           | ClipRound       |
| 5   | CSEEM  | wisconsin | 993.998  | 0.971    | 32    | 112 | Sin           | ClipRound       |
| 1   | CSEEM  | zoo       | 13.0     | 0.98     | 8     | 24  | Tanh          | ClipRound       |
| 1   | CSEEM  | zoo       | 14.0     | 0.98     | 16    | 26  | Tanh          | ClipRound       |
| 1   | CSEEM  | zoo       | 59.0     | 0.96     | 32    | 21  | Tanh          | ClipRound       |
| 1   | CSEEM  | zoo       | 10.0     | 0.97     | 8     | 21  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | zoo       | 26.999   | 0.941    | 16    | 22  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | zoo       | 38.0     | 0.98     | 32    | 22  | SoftRelu      | ClipRound       |
| 1   | CSEEM  | zoo       | 20.998   | 0.99     | 8     | 24  | Relu          | ClipRound       |
| 1   | CSEEM  | zoo       | 30.985   | 1        | 16    | 22  | Relu          | ClipRound       |
| 1   | CSEEM  | zoo       | 43.999   | 0.95     | 32    | 20  | Relu          | ClipRound       |
| 1   | CSEEM  | zoo       | 18.0     | 0.97     | 8     | 22  | Sigmoid       | ClipRound       |

Table I.80: All CSEEM Results of classification problems (80/83).



| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 1   | CSEEM  | zoo     | 13.995   | 0.95     | 16    | 20  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | zoo     | 29.999   | 0.941    | 32    | 18  | Sigmoid       | ClipRound       |
| 1   | CSEEM  | zoo     | 8.0      | 0.851    | 8     | 31  | Sin           | ClipRound       |
| 1   | CSEEM  | zoo     | 26.993   | 0.861    | 16    | 39  | Sin           | ClipRound       |
| 1   | CSEEM  | zoo     | 80.0     | 0.861    | 32    | 30  | Sin           | ClipRound       |
| 2   | CSEEM  | zoo     | 12.999   | 0.891    | 8     | 16  | Tanh          | ClipRound       |
| 2   | CSEEM  | zoo     | 24.992   | 0.98     | 16    | 24  | Tanh          | ClipRound       |
| 2   | CSEEM  | zoo     | 85.0     | 0.98     | 32    | 23  | Tanh          | ClipRound       |
| 2   | CSEEM  | zoo     | 7.0      | 0.98     | 8     | 24  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | zoo     | 26.001   | 0.98     | 16    | 20  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | zoo     | 53.001   | 0.96     | 32    | 22  | SoftRelu      | ClipRound       |
| 2   | CSEEM  | zoo     | 15.999   | 0.98     | 8     | 24  | Relu          | ClipRound       |
| 2   | CSEEM  | zoo     | 25.006   | 0.98     | 16    | 20  | Relu          | ClipRound       |
| 2   | CSEEM  | zoo     | 56.999   | 0.96     | 32    | 18  | Relu          | ClipRound       |
| 2   | CSEEM  | zoo     | 9.0      | 0.99     | 8     | 26  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | zoo     | 29.994   | 0.97     | 16    | 20  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | zoo     | 29.0     | 0.97     | 32    | 19  | Sigmoid       | ClipRound       |
| 2   | CSEEM  | zoo     | 22.0     | 0.99     | 8     | 40  | Sin           | ClipRound       |
| 2   | CSEEM  | zoo     | 40.008   | 0.941    | 16    | 34  | Sin           | ClipRound       |
| 2   | CSEEM  | zoo     | 58.0     | 0.95     | 32    | 39  | Sin           | ClipRound       |
| 3   | CSEEM  | zoo     | 12.997   | 0.96     | 8     | 26  | Tanh          | ClipRound       |
| 3   | CSEEM  | zoo     | 17.0     | 0.941    | 16    | 20  | Tanh          | ClipRound       |
| 3   | CSEEM  | zoo     | 109.0    | 0.99     | 32    | 20  | Tanh          | ClipRound       |
| 3   | CSEEM  | zoo     | 16.999   | 0.96     | 8     | 19  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | zoo     | 22.999   | 0.97     | 16    | 26  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | zoo     | 67.999   | 1        | 32    | 22  | SoftRelu      | ClipRound       |
| 3   | CSEEM  | zoo     | 10.0     | 0.95     | 8     | 22  | Relu          | ClipRound       |
| 3   | CSEEM  | zoo     | 58.002   | 0.98     | 16    | 20  | Relu          | ClipRound       |
| 3   | CSEEM  | zoo     | 61.999   | 0.96     | 32    | 15  | Relu          | ClipRound       |
| 3   | CSEEM  | zoo     | 16.0     | 0.97     | 8     | 21  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | zoo     | 29.003   | 0.97     | 16    | 22  | Sigmoid       | ClipRound       |
| 3   | CSEEM  | zoo     | 38.999   | 0.97     | 32    | 19  | Sigmoid       | ClipRound       |

Table I.81: All CSEEM Results of classification problems (81/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 3   | CSEEM  | zoo     | 11.0     | 0.911    | 8     | 38  | Sin           | ClipRound       |
| 3   | CSEEM  | zoo     | 29.999   | 0.95     | 16    | 39  | Sin           | ClipRound       |
| 3   | CSEEM  | zoo     | 83.0     | 0.921    | 32    | 36  | Sin           | ClipRound       |
| 4   | CSEEM  | zoo     | 6.0      | 0.941    | 8     | 20  | Tanh          | ClipRound       |
| 4   | CSEEM  | zoo     | 20.995   | 0.97     | 16    | 23  | Tanh          | ClipRound       |
| 4   | CSEEM  | zoo     | 58.0     | 0.96     | 32    | 20  | Tanh          | ClipRound       |
| 4   | CSEEM  | zoo     | 17.001   | 0.96     | 8     | 22  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | zoo     | 24.998   | 0.96     | 16    | 20  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | zoo     | 46.999   | 0.99     | 32    | 18  | SoftRelu      | ClipRound       |
| 4   | CSEEM  | zoo     | 11.999   | 0.96     | 8     | 23  | Relu          | ClipRound       |
| 4   | CSEEM  | zoo     | 27.0     | 0.97     | 16    | 22  | Relu          | ClipRound       |
| 4   | CSEEM  | zoo     | 44.999   | 0.96     | 32    | 18  | Relu          | ClipRound       |
| 4   | CSEEM  | zoo     | 16.999   | 0.99     | 8     | 23  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | zoo     | 12.001   | 0.95     | 16    | 19  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | zoo     | 69.999   | 1        | 32    | 22  | Sigmoid       | ClipRound       |
| 4   | CSEEM  | zoo     | 12.999   | 0.96     | 8     | 41  | Sin           | ClipRound       |
| 4   | CSEEM  | zoo     | 41.0     | 0.891    | 16    | 36  | Sin           | ClipRound       |
| 4   | CSEEM  | zoo     | 26.999   | 0.941    | 32    | 42  | Sin           | ClipRound       |
| 5   | CSEEM  | zoo     | 7.0      | 0.95     | 8     | 19  | Tanh          | ClipRound       |
| 5   | CSEEM  | zoo     | 26.0     | 0.96     | 16    | 25  | Tanh          | ClipRound       |
| 5   | CSEEM  | zoo     | 28.999   | 0.98     | 32    | 25  | Tanh          | ClipRound       |
| 5   | CSEEM  | zoo     | 20.999   | 0.95     | 8     | 25  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | zoo     | 26.999   | 0.97     | 16    | 22  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | zoo     | 74.999   | 0.99     | 32    | 22  | SoftRelu      | ClipRound       |
| 5   | CSEEM  | zoo     | 18.0     | 0.99     | 8     | 23  | Relu          | ClipRound       |
| 5   | CSEEM  | zoo     | 57.988   | 0.97     | 16    | 19  | Relu          | ClipRound       |
| 5   | CSEEM  | zoo     | 47.999   | 0.99     | 32    | 24  | Relu          | ClipRound       |
| 5   | CSEEM  | zoo     | 17.0     | 1        | 8     | 29  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | zoo     | 37.998   | 0.97     | 16    | 20  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | zoo     | 81.001   | 0.98     | 32    | 21  | Sigmoid       | ClipRound       |
| 5   | CSEEM  | zoo     | 19.998   | 0.931    | 8     | 43  | Sin           | ClipRound       |
| 5   | CSEEM  | zoo     | 28.999   | 0.861    | 16    | 29  | Sin           | ClipRound       |

Table I.82: All CSEEM Results of classification problems (82/83).

| Run | Method | Dataset | Time (s) | Accuracy | $n_c$ | $k$ | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|--------|---------|----------|----------|-------|-----|---------------|-----------------|
| 5   | CSEEM  | zoo     | 45.999   | 0.891    | 32    | 35  | Sin           | ClipRound       |

Table I.83: All CSEEM Results of classification problems (83/83).

## Appendix J

### RMSProp Classification All Results

| Run | Method  | Dataset      | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|--------------|----------|----------|-------|------|---------------|-----------------|
| 1   | RMSProp | appendicitis | 675.062  | 0.896    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | appendicitis | 186.009  | 0.887    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | appendicitis | 789.009  | 0.868    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | appendicitis | 184.0    | 0.877    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | appendicitis | 789.014  | 0.877    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | appendicitis | 65.257   | 0.896    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | appendicitis | 62.341   | 0.887    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | appendicitis | 247.0    | 0.868    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | appendicitis | 32.0     | 0.877    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | appendicitis | 220.999  | 0.877    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | appendicitis | 761.177  | 0.896    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | appendicitis | 141.888  | 0.877    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | appendicitis | 134.597  | 0.877    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | appendicitis | 938.046  | 0.877    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | appendicitis | 233.5    | 0.887    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | appendicitis | 891.012  | 0.896    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | appendicitis | 304.965  | 0.887    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | appendicitis | 242.979  | 0.868    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | appendicitis | 54.966   | 0.877    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | appendicitis | 784.965  | 0.887    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | appendicitis | 205.796  | 0.896    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | appendicitis | 95.454   | 0.877    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | appendicitis | 835.0    | 0.868    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | appendicitis | 568.69   | 0.877    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | appendicitis | 5.987    | 0.887    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | australian   | 441.002  | 0.659    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | australian   | 793.004  | 0.555    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | australian   | 448.965  | 0.555    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | australian   | 842.514  | 0.555    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | australian   | 171.977  | 0.52     | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | australian   | 92.826   | 0.645    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | australian   | 709.891  | 0.555    | 1000  | 1000 | SoftRelu      | SoftMax         |

Table J.1: All RMSProp Results of classification problems (1/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 2   | RMSProp | australian | 268.0    | 0.555    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | australian | 651.0    | 0.555    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | australian | 192.008  | 0.551    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | australian | 826.794  | 0.662    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | australian | 313.122  | 0.555    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | australian | 515.003  | 0.555    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | australian | 633.52   | 0.555    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | australian | 962.556  | 0.452    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | australian | 529.417  | 0.659    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | australian | 746.028  | 0.555    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | australian | 937.977  | 0.555    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | australian | 202.636  | 0.555    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | australian | 365.074  | 0.461    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | australian | 496.0    | 0.642    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | australian | 202.002  | 0.555    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | australian | 199.08   | 0.555    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | australian | 103.0    | 0.555    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | australian | 281.236  | 0.445    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | automobile | 228.09   | 0.371    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | automobile | 740.405  | 0.0189   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | automobile | 61.239   | 0.0189   | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | automobile | 803.993  | 0.0189   | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | automobile | 901.126  | 0.201    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | automobile | 491.002  | 0.333    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | automobile | 336.003  | 0.0189   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | automobile | 315.003  | 0.0189   | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | automobile | 340.804  | 0.0189   | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | automobile | 205.999  | 0.189    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | automobile | 25.378   | 0.371    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | automobile | 615.089  | 0.0189   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | automobile | 796.999  | 0.0189   | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | automobile | 353.998  | 0.0189   | 1000  | 1000 | Sigmoid       | SoftMax         |

Table J.2: All RMSProp Results of classification problems (2/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 3   | RMSProp | automobile | 147.115  | 0.17     | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | automobile | 787.0    | 0.327    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | automobile | 988.009  | 0.0189   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | automobile | 143.488  | 0.0189   | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | automobile | 607.97   | 0.0189   | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | automobile | 184.029  | 0.176    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | automobile | 125.337  | 0.365    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | automobile | 599.001  | 0.0189   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | automobile | 294.999  | 0.0189   | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | automobile | 485.169  | 0.0189   | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | automobile | 542.966  | 0.17     | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | balance    | 497.001  | 0.91     | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | balance    | 499.513  | 0.91     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | balance    | 211.168  | 0.891    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | balance    | 847.001  | 0.907    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | balance    | 149.948  | 0.907    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | balance    | 143.079  | 0.91     | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | balance    | 132.095  | 0.91     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | balance    | 194.297  | 0.89     | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | balance    | 446.295  | 0.906    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | balance    | 150.002  | 0.91     | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | balance    | 533.695  | 0.91     | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | balance    | 613.021  | 0.91     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | balance    | 684.026  | 0.89     | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | balance    | 269.517  | 0.909    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | balance    | 19.001   | 0.907    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | balance    | 4.035    | 0.91     | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | balance    | 190.036  | 0.91     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | balance    | 524.081  | 0.888    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | balance    | 905.001  | 0.909    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | balance    | 104.516  | 0.907    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | balance    | 685.0    | 0.91     | 1000  | 1000 | Tanh          | SoftMax         |

Table J.3: All RMSProp Results of classification problems (3/28).

| Run | Method  | Dataset | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|---------|----------|----------|-------|------|---------------|-----------------|
| 5   | RMSProp | balance | 500.518  | 0.91     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | balance | 668.029  | 0.888    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | balance | 101.041  | 0.906    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | balance | 721.003  | 0.906    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | bands   | 55.844   | 0.674    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | bands   | 58.917   | 0.37     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | bands   | 599.164  | 0.37     | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | bands   | 461.001  | 0.37     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | bands   | 211.061  | 0.652    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | bands   | 402.437  | 0.677    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | bands   | 582.0    | 0.636    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | bands   | 519.999  | 0.633    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | bands   | 345.481  | 0.37     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | bands   | 381.002  | 0.619    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | bands   | 85.591   | 0.655    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | bands   | 114.976  | 0.37     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | bands   | 275.002  | 0.37     | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | bands   | 253.261  | 0.37     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | bands   | 326.992  | 0.485    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | bands   | 355.7    | 0.641    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | bands   | 603.956  | 0.37     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | bands   | 579.044  | 0.364    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | bands   | 564.999  | 0.37     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | bands   | 403.001  | 0.485    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | bands   | 200.949  | 0.677    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | bands   | 187.001  | 0.37     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | bands   | 888.06   | 0.37     | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | bands   | 499.0    | 0.37     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | bands   | 739.038  | 0.501    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | breast  | 742.738  | 0.704    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | breast  | 408.401  | 0.686    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | breast  | 241.236  | 0.661    | 1000  | 1000 | Relu          | SoftMax         |

Table J.4: All RMSProp Results of classification problems (4/28).



| Run | Method  | Dataset | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|---------|----------|----------|-------|------|---------------|-----------------|
| 1   | RMSProp | breast  | 941.0    | 0.726    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | breast  | 729.131  | 0.69     | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | breast  | 44.229   | 0.704    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | breast  | 812.847  | 0.693    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | breast  | 212.007  | 0.664    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | breast  | 19.002   | 0.7      | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | breast  | 75.0     | 0.69     | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | breast  | 812.826  | 0.715    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | breast  | 618.088  | 0.69     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | breast  | 67.035   | 0.657    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | breast  | 809.172  | 0.726    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | breast  | 24.001   | 0.693    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | breast  | 925.616  | 0.718    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | breast  | 164.144  | 0.693    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | breast  | 210.005  | 0.657    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | breast  | 144.221  | 0.729    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | breast  | 741.277  | 0.682    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | breast  | 811.005  | 0.708    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | breast  | 671.0    | 0.697    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | breast  | 558.0    | 0.671    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | breast  | 917.854  | 0.722    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | breast  | 422.159  | 0.69     | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | bupa    | 865.004  | 0.704    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | bupa    | 593.167  | 0.649    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | bupa    | 893.313  | 0.687    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | bupa    | 232.001  | 0.713    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | bupa    | 724.11   | 0.687    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | bupa    | 222.953  | 0.707    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | bupa    | 251.998  | 0.562    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | bupa    | 215.009  | 0.701    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | bupa    | 299.036  | 0.701    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | bupa    | 104.957  | 0.696    | 1000  | 1000 | Sin           | SoftMax         |

Table J.5: All RMSProp Results of classification problems (5/28).

| Run | Method  | Dataset   | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-----------|----------|----------|-------|------|---------------|-----------------|
| 3   | RMSProp | bupa      | 49.015   | 0.693    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | bupa      | 845.991  | 0.525    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | bupa      | 966.967  | 0.652    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | bupa      | 37.996   | 0.684    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | bupa      | 999.001  | 0.725    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | bupa      | 161.416  | 0.699    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | bupa      | 498.002  | 0.704    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | bupa      | 224.313  | 0.67     | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | bupa      | 321.511  | 0.699    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | bupa      | 540.15   | 0.687    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | bupa      | 654.0    | 0.693    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | bupa      | 833.018  | 0.632    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | bupa      | 800.132  | 0.707    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | bupa      | 23.001   | 0.681    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | bupa      | 428.834  | 0.69     | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | cleveland | 819.028  | 0.545    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | cleveland | 402.686  | 0.519    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | cleveland | 168.999  | 0.539    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | cleveland | 739.001  | 0.549    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | cleveland | 304.0    | 0.572    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | cleveland | 865.969  | 0.545    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | cleveland | 481.0    | 0.539    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | cleveland | 954.996  | 0.529    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | cleveland | 931.999  | 0.542    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | cleveland | 583.997  | 0.502    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | cleveland | 843.0    | 0.559    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | cleveland | 800.043  | 0.576    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | cleveland | 766.963  | 0.556    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | cleveland | 812.907  | 0.566    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | cleveland | 682.059  | 0.569    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | cleveland | 983.694  | 0.582    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | cleveland | 180.576  | 0.569    | 1000  | 1000 | SoftRelu      | SoftMax         |

Table J.6: All RMSProp Results of classification problems (6/28).

| Run | Method  | Dataset   | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-----------|----------|----------|-------|------|---------------|-----------------|
| 4   | RMSProp | cleveland | 934.0    | 0.566    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | cleveland | 23.01    | 0.539    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | cleveland | 251.421  | 0.576    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | cleveland | 402.0    | 0.559    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | cleveland | 215.511  | 0.539    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | cleveland | 109.125  | 0.522    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | cleveland | 614.001  | 0.535    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | cleveland | 329.086  | 0.532    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | crx       | 391.083  | 0.533    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | crx       | 424.442  | 0.453    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | crx       | 532.513  | 0.453    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | crx       | 502.999  | 0.453    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | crx       | 603.765  | 0.469    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | crx       | 772.999  | 0.672    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | crx       | 991.001  | 0.453    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | crx       | 358.001  | 0.453    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | crx       | 933.063  | 0.453    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | crx       | 56.024   | 0.462    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | crx       | 841.999  | 0.525    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | crx       | 706.557  | 0.453    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | crx       | 247.001  | 0.453    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | crx       | 823.999  | 0.453    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | crx       | 202.007  | 0.645    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | crx       | 715.847  | 0.625    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | crx       | 158.569  | 0.453    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | crx       | 659.999  | 0.453    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | crx       | 573.999  | 0.453    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | crx       | 936.944  | 0.515    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | crx       | 973.954  | 0.485    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | crx       | 934.513  | 0.453    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | crx       | 554.0    | 0.453    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | crx       | 67.001   | 0.453    | 1000  | 1000 | Sigmoid       | SoftMax         |

Table J.7: All RMSProp Results of classification problems (7/28).

| Run | Method  | Dataset | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|---------|----------|----------|-------|------|---------------|-----------------|
| 5   | RMSProp | crx     | 377.272  | 0.472    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | ecoli   | 615.151  | 0.804    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | ecoli   | 412.549  | 0.735    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | ecoli   | 30.202   | 0.78     | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | ecoli   | 890.0    | 0.801    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | ecoli   | 107.968  | 0.792    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | ecoli   | 731.061  | 0.812    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | ecoli   | 667.995  | 0.426    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | ecoli   | 874.001  | 0.804    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | ecoli   | 311.191  | 0.798    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | ecoli   | 331.964  | 0.783    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | ecoli   | 835.997  | 0.812    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | ecoli   | 473.999  | 0.795    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | ecoli   | 779.0    | 0.426    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | ecoli   | 155.01   | 0.804    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | ecoli   | 486.988  | 0.762    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | ecoli   | 749.676  | 0.807    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | ecoli   | 292.998  | 0.426    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | ecoli   | 902.127  | 0.798    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | ecoli   | 974.03   | 0.81     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | ecoli   | 452.021  | 0.768    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | ecoli   | 483.005  | 0.807    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | ecoli   | 488.007  | 0.768    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | ecoli   | 480.82   | 0.786    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | ecoli   | 835.001  | 0.821    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | ecoli   | 209.868  | 0.747    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | flare   | 519.653  | 0.447    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | flare   | 698.545  | 0.437    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | flare   | 720.817  | 0.565    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | flare   | 450.039  | 0.43     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | flare   | 450.888  | 0.447    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | flare   | 577.085  | 0.432    | 1000  | 1000 | Tanh          | SoftMax         |

Table J.8: All RMSProp Results of classification problems (8/28).

| Run | Method  | Dataset | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|---------|----------|----------|-------|------|---------------|-----------------|
| 2   | RMSProp | flare   | 343.036  | 0.435    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | flare   | 294.001  | 0.568    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | flare   | 594.369  | 0.429    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | flare   | 543.372  | 0.439    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | flare   | 566.999  | 0.444    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | flare   | 800.521  | 0.433    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | flare   | 423.0    | 0.569    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | flare   | 131.011  | 0.423    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | flare   | 681.001  | 0.466    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | flare   | 612.385  | 0.447    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | flare   | 135.586  | 0.438    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | flare   | 424.885  | 0.564    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | flare   | 788.033  | 0.423    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | flare   | 413.004  | 0.447    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | flare   | 501.003  | 0.438    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | flare   | 898.545  | 0.438    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | flare   | 281.512  | 0.568    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | flare   | 747.009  | 0.423    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | flare   | 417.001  | 0.442    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | german  | 300.001  | 0.516    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | german  | 112.004  | 0.7      | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | german  | 613.92   | 0.7      | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | german  | 188.513  | 0.7      | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | german  | 380.97   | 0.692    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | german  | 589.005  | 0.637    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | german  | 477.728  | 0.7      | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | german  | 288.001  | 0.7      | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | german  | 767.001  | 0.7      | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | german  | 404.291  | 0.702    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | german  | 371.7    | 0.698    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | german  | 298.078  | 0.7      | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | german  | 252.534  | 0.7      | 1000  | 1000 | Relu          | SoftMax         |

Table J.9: All RMSProp Results of classification problems (9/28).

| Run | Method  | Dataset | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|---------|----------|----------|-------|------|---------------|-----------------|
| 3   | RMSProp | german  | 899.074  | 0.7      | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | german  | 579.003  | 0.695    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | german  | 608.635  | 0.359    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | german  | 493.999  | 0.7      | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | german  | 288.137  | 0.7      | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | german  | 239.0    | 0.7      | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | german  | 106.071  | 0.687    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | german  | 495.004  | 0.362    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | german  | 827.299  | 0.7      | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | german  | 754.342  | 0.7      | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | german  | 476.548  | 0.7      | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | german  | 247.0    | 0.423    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | glass   | 25.716   | 0.224    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | glass   | 519.954  | 0.327    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | glass   | 527.521  | 0.327    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | glass   | 245.942  | 0.224    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | glass   | 875.968  | 0.192    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | glass   | 186.142  | 0.224    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | glass   | 895.0    | 0.327    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | glass   | 396.223  | 0.327    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | glass   | 956.333  | 0.224    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | glass   | 627.905  | 0.192    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | glass   | 24.0     | 0.224    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | glass   | 510.013  | 0.327    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | glass   | 336.675  | 0.327    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | glass   | 949.016  | 0.224    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | glass   | 462.79   | 0.252    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | glass   | 299.086  | 0.224    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | glass   | 389.0    | 0.327    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | glass   | 487.626  | 0.327    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | glass   | 384.039  | 0.224    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | glass   | 888.364  | 0.21     | 1000  | 1000 | Sin           | SoftMax         |

Table J.10: All RMSProp Results of classification problems (10/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 5   | RMSProp | glass      | 412.999  | 0.224    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | glass      | 941.909  | 0.327    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | glass      | 467.681  | 0.327    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | glass      | 882.004  | 0.224    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | glass      | 231.0    | 0.192    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | haberman   | 711.133  | 0.265    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | haberman   | 207.022  | 0.265    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | haberman   | 559.026  | 0.265    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | haberman   | 401.058  | 0.758    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | haberman   | 387.027  | 0.265    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | haberman   | 679.153  | 0.461    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | haberman   | 647.584  | 0.265    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | haberman   | 599.204  | 0.265    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | haberman   | 560.008  | 0.605    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | haberman   | 82.719   | 0.265    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | haberman   | 899.028  | 0.265    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | haberman   | 516.998  | 0.265    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | haberman   | 586.983  | 0.265    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | haberman   | 528.878  | 0.755    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | haberman   | 257.013  | 0.265    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | haberman   | 781.84   | 0.265    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | haberman   | 892.729  | 0.265    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | haberman   | 569.296  | 0.265    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | haberman   | 639.0    | 0.605    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | haberman   | 501.178  | 0.265    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | haberman   | 939.0    | 0.458    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | haberman   | 969.516  | 0.265    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | haberman   | 88.022   | 0.265    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | haberman   | 103.001  | 0.748    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | haberman   | 131.022  | 0.265    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | hayes_roth | 745.754  | 0.575    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | hayes_roth | 216.897  | 0.406    | 1000  | 1000 | SoftRelu      | SoftMax         |

Table J.11: All RMSProp Results of classification problems (11/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 1   | RMSProp | hayes_roth | 292.648  | 0.65     | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | hayes_roth | 741.027  | 0.581    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | hayes_roth | 136.007  | 0.619    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | hayes_roth | 878.985  | 0.406    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | hayes_roth | 605.453  | 0.406    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | hayes_roth | 76.285   | 0.613    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | hayes_roth | 867.004  | 0.637    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | hayes_roth | 929.978  | 0.637    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | hayes_roth | 719.804  | 0.406    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | hayes_roth | 258.998  | 0.406    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | hayes_roth | 104.167  | 0.6      | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | hayes_roth | 922.599  | 0.619    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | hayes_roth | 63.12    | 0.619    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | hayes_roth | 893.558  | 0.406    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | hayes_roth | 446.998  | 0.406    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | hayes_roth | 102.38   | 0.619    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | hayes_roth | 886.646  | 0.613    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | hayes_roth | 242.423  | 0.663    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | hayes_roth | 25.999   | 0.406    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | hayes_roth | 857.958  | 0.406    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | hayes_roth | 552.985  | 0.625    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | hayes_roth | 327.999  | 0.613    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | hayes_roth | 956.407  | 0.606    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | heart      | 631.769  | 0.774    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | heart      | 463.244  | 0.804    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | heart      | 850.077  | 0.793    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | heart      | 987.0    | 0.77     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | heart      | 445.066  | 0.793    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | heart      | 812.191  | 0.778    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | heart      | 454.892  | 0.793    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | heart      | 704.995  | 0.811    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | heart      | 924.054  | 0.759    | 1000  | 1000 | Sigmoid       | SoftMax         |

Table J.12: All RMSProp Results of classification problems (12/28).



| Run | Method  | Dataset   | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-----------|----------|----------|-------|------|---------------|-----------------|
| 2   | RMSProp | heart     | 179.991  | 0.819    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | heart     | 321.628  | 0.77     | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | heart     | 910.0    | 0.763    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | heart     | 740.001  | 0.793    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | heart     | 788.473  | 0.77     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | heart     | 404.058  | 0.807    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | heart     | 959.279  | 0.767    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | heart     | 740.553  | 0.796    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | heart     | 646.062  | 0.807    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | heart     | 247.108  | 0.781    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | heart     | 645.433  | 0.822    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | heart     | 112.067  | 0.774    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | heart     | 910.996  | 0.785    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | heart     | 275.959  | 0.785    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | heart     | 183.002  | 0.77     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | heart     | 243.837  | 0.819    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | hepatitis | 631.008  | 0.8      | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | hepatitis | 886.219  | 0.875    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | hepatitis | 774.028  | 0.837    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | hepatitis | 945.254  | 0.825    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | hepatitis | 752.966  | 0.887    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | hepatitis | 628.999  | 0.875    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | hepatitis | 72.915   | 0.85     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | hepatitis | 808.083  | 0.85     | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | hepatitis | 7.998    | 0.875    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | hepatitis | 701.014  | 0.863    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | hepatitis | 27.42    | 0.863    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | hepatitis | 294.966  | 0.162    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | hepatitis | 959.999  | 0.162    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | hepatitis | 20.625   | 0.812    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | hepatitis | 789.049  | 0.863    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | hepatitis | 193.663  | 0.875    | 1000  | 1000 | Tanh          | SoftMax         |

Table J.13: All RMSProp Results of classification problems (13/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 4   | RMSProp | hepatitis  | 170.687  | 0.875    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | hepatitis  | 780.003  | 0.837    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | hepatitis  | 115.586  | 0.887    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | hepatitis  | 806.078  | 0.863    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | hepatitis  | 717.999  | 0.887    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | hepatitis  | 86.999   | 0.85     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | hepatitis  | 922.248  | 0.85     | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | hepatitis  | 886.011  | 0.825    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | hepatitis  | 888.498  | 0.887    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | housevotes | 964.0    | 0.961    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | housevotes | 691.512  | 0.974    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | housevotes | 648.017  | 0.966    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | housevotes | 412.053  | 0.97     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | housevotes | 20.099   | 0.961    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | housevotes | 73.27    | 0.961    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | housevotes | 17.601   | 0.974    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | housevotes | 432.613  | 0.966    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | housevotes | 24.085   | 0.97     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | housevotes | 406.967  | 0.961    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | housevotes | 550.549  | 0.961    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | housevotes | 905.006  | 0.961    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | housevotes | 563.046  | 0.97     | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | housevotes | 960.998  | 0.97     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | housevotes | 505.046  | 0.961    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | housevotes | 943.236  | 0.961    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | housevotes | 42.976   | 0.961    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | housevotes | 558.087  | 0.966    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | housevotes | 884.662  | 0.97     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | housevotes | 718.999  | 0.961    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | housevotes | 412.011  | 0.961    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | housevotes | 105.97   | 0.961    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | housevotes | 192.49   | 0.97     | 1000  | 1000 | Relu          | SoftMax         |

Table J.14: All RMSProp Results of classification problems (14/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 5   | RMSProp | housevotes | 740.359  | 0.974    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | housevotes | 366.175  | 0.961    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | ionosphere | 260.005  | 0.872    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | ionosphere | 999.515  | 0.883    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | ionosphere | 341.896  | 0.923    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | ionosphere | 647.001  | 0.84     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | ionosphere | 210.006  | 0.88     | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | ionosphere | 408.063  | 0.872    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | ionosphere | 687.532  | 0.883    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | ionosphere | 365.992  | 0.909    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | ionosphere | 216.017  | 0.823    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | ionosphere | 13.01    | 0.88     | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | ionosphere | 953.972  | 0.877    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | ionosphere | 653.001  | 0.886    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | ionosphere | 81.094   | 0.906    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | ionosphere | 23.0     | 0.835    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | ionosphere | 108.96   | 0.843    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | ionosphere | 944.702  | 0.877    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | ionosphere | 609.536  | 0.883    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | ionosphere | 212.989  | 0.906    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | ionosphere | 133.317  | 0.829    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | ionosphere | 194.0    | 0.846    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | ionosphere | 453.007  | 0.883    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | ionosphere | 468.989  | 0.886    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | ionosphere | 640.955  | 0.909    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | ionosphere | 722.208  | 0.849    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | ionosphere | 810.001  | 0.846    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | iris       | 709.0    | 0.667    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | iris       | 282.015  | 0.987    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | iris       | 84.933   | 0.973    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | iris       | 230.081  | 0.987    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | iris       | 23.998   | 0.967    | 1000  | 1000 | Sin           | SoftMax         |

Table J.15: All RMSProp Results of classification problems (15/28).

| Run | Method  | Dataset   | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-----------|----------|----------|-------|------|---------------|-----------------|
| 2   | RMSProp | iris      | 605.523  | 0.667    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | iris      | 463.07   | 0.987    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | iris      | 22.532   | 0.98     | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | iris      | 382.025  | 0.987    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | iris      | 969.996  | 0.967    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | iris      | 516.531  | 0.98     | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | iris      | 999.502  | 0.987    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | iris      | 871.999  | 0.98     | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | iris      | 493.998  | 0.98     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | iris      | 975.935  | 0.967    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | iris      | 525.0    | 0.973    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | iris      | 595.002  | 0.987    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | iris      | 68.0     | 0.973    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | iris      | 681.913  | 0.987    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | iris      | 102.986  | 0.967    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | iris      | 945.01   | 0.98     | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | iris      | 750.521  | 0.987    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | iris      | 301.003  | 0.98     | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | iris      | 154.009  | 0.987    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | iris      | 954.961  | 0.967    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | led7digit | 53.0     | 0.718    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | led7digit | 413.501  | 0.712    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | led7digit | 632.029  | 0.72     | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | led7digit | 803.104  | 0.726    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | led7digit | 196.179  | 0.718    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | led7digit | 88.066   | 0.718    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | led7digit | 613.001  | 0.708    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | led7digit | 596.37   | 0.72     | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | led7digit | 797.517  | 0.728    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | led7digit | 879.155  | 0.716    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | led7digit | 599.711  | 0.718    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | led7digit | 35.006   | 0.708    | 1000  | 1000 | SoftRelu      | SoftMax         |

Table J.16: All RMSProp Results of classification problems (16/28).

| Run | Method  | Dataset      | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|--------------|----------|----------|-------|------|---------------|-----------------|
| 3   | RMSProp | led7digit    | 681.091  | 0.72     | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | led7digit    | 12.971   | 0.726    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | led7digit    | 887.999  | 0.716    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | led7digit    | 817.999  | 0.718    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | led7digit    | 864.99   | 0.708    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | led7digit    | 704.001  | 0.718    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | led7digit    | 71.041   | 0.728    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | led7digit    | 305.0    | 0.718    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | led7digit    | 498.001  | 0.712    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | led7digit    | 52.511   | 0.708    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | led7digit    | 179.148  | 0.718    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | led7digit    | 893.354  | 0.728    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | led7digit    | 692.024  | 0.716    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | lymphography | 808.98   | 0.804    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | lymphography | 480.994  | 0.838    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | lymphography | 237.889  | 0.811    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | lymphography | 204.977  | 0.818    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | lymphography | 222.946  | 0.824    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | lymphography | 916.425  | 0.797    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | lymphography | 270.0    | 0.818    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | lymphography | 393.53   | 0.845    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | lymphography | 610.024  | 0.818    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | lymphography | 79.179   | 0.824    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | lymphography | 739.002  | 0.777    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | lymphography | 960.998  | 0.818    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | lymphography | 174.476  | 0.858    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | lymphography | 593.014  | 0.797    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | lymphography | 43.071   | 0.791    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | lymphography | 830.012  | 0.797    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | lymphography | 613.927  | 0.784    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | lymphography | 165.048  | 0.865    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | lymphography | 910.544  | 0.797    | 1000  | 1000 | Sigmoid       | SoftMax         |

Table J.17: All RMSProp Results of classification problems (17/28).

| Run | Method  | Dataset      | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|--------------|----------|----------|-------|------|---------------|-----------------|
| 4   | RMSProp | lymphography | 137.996  | 0.824    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | lymphography | 989.999  | 0.777    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | lymphography | 0.116    | 0.797    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | lymphography | 375.892  | 0.858    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | lymphography | 135.984  | 0.804    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | lymphography | 967.044  | 0.818    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | mammographic | 712.0    | 0.764    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | mammographic | 694.001  | 0.71     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | mammographic | 721.0    | 0.684    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | mammographic | 271.0    | 0.742    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | mammographic | 7.829    | 0.731    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | mammographic | 254.96   | 0.514    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | mammographic | 257.001  | 0.705    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | mammographic | 106.0    | 0.661    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | mammographic | 22.518   | 0.739    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | mammographic | 794.27   | 0.733    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | mammographic | 150.001  | 0.749    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | mammographic | 260.07   | 0.723    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | mammographic | 983.011  | 0.628    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | mammographic | 713.0    | 0.742    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | mammographic | 558.96   | 0.74     | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | mammographic | 437.001  | 0.514    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | mammographic | 416.979  | 0.724    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | mammographic | 845.93   | 0.692    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | mammographic | 220.512  | 0.751    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | mammographic | 894.001  | 0.739    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | mammographic | 971.001  | 0.77     | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | mammographic | 19.001   | 0.716    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | mammographic | 895.015  | 0.675    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | mammographic | 208.516  | 0.736    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | mammographic | 117.003  | 0.734    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | monk_2       | 866.453  | 0.778    | 1000  | 1000 | Tanh          | SoftMax         |

Table J.18: All RMSProp Results of classification problems (18/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 1   | RMSProp | monk_2     | 137.002  | 0.778    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | monk_2     | 254.833  | 0.806    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | monk_2     | 259.0    | 0.806    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | monk_2     | 707.966  | 0.778    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | monk_2     | 379.999  | 0.778    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | monk_2     | 407.06   | 0.778    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | monk_2     | 158.0    | 0.806    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | monk_2     | 695.513  | 0.806    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | monk_2     | 54.999   | 0.778    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | monk_2     | 170.923  | 0.778    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | monk_2     | 37.002   | 0.778    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | monk_2     | 551.003  | 0.819    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | monk_2     | 563.0    | 0.806    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | monk_2     | 384.212  | 0.778    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | monk_2     | 197.057  | 0.778    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | monk_2     | 546.997  | 0.778    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | monk_2     | 499.991  | 0.806    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | monk_2     | 487.514  | 0.808    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | monk_2     | 417.0    | 0.778    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | monk_2     | 26.0     | 0.778    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | monk_2     | 43.431   | 0.778    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | monk_2     | 252.0    | 0.806    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | monk_2     | 218.585  | 0.806    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | monk_2     | 101.959  | 0.778    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | newthyroid | 875.258  | 0.991    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | newthyroid | 575.012  | 0.986    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | newthyroid | 205.092  | 0.981    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | newthyroid | 893.0    | 0.986    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | newthyroid | 218.778  | 0.972    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | newthyroid | 54.001   | 0.991    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | newthyroid | 691.002  | 0.977    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | newthyroid | 966.211  | 0.986    | 1000  | 1000 | Relu          | SoftMax         |

Table J.19: All RMSProp Results of classification problems (19/28).

| Run | Method  | Dataset    | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|------------|----------|----------|-------|------|---------------|-----------------|
| 2   | RMSProp | newthyroid | 908.153  | 0.986    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | newthyroid | 421.924  | 0.977    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | newthyroid | 618.215  | 0.986    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | newthyroid | 427.01   | 0.986    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | newthyroid | 368.467  | 0.977    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | newthyroid | 506.586  | 0.986    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | newthyroid | 42.003   | 0.986    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | newthyroid | 681.056  | 0.991    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | newthyroid | 439.974  | 0.986    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | newthyroid | 617.969  | 0.991    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | newthyroid | 990.496  | 0.986    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | newthyroid | 261.001  | 0.972    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | newthyroid | 0.0      | 0.986    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | newthyroid | 123.0    | 0.986    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | newthyroid | 445.999  | 0.972    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | newthyroid | 272.999  | 0.986    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | newthyroid | 37.235   | 0.986    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | pima       | 634.05   | 0.667    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | pima       | 326.038  | 0.651    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | pima       | 913.468  | 0.651    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | pima       | 986.531  | 0.651    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | pima       | 562.309  | 0.75     | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | pima       | 327.002  | 0.658    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | pima       | 96.345   | 0.651    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | pima       | 520.552  | 0.651    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | pima       | 302.156  | 0.651    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | pima       | 474.117  | 0.749    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | pima       | 138.001  | 0.667    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | pima       | 888.51   | 0.725    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | pima       | 112.014  | 0.715    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | pima       | 322.515  | 0.651    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | pima       | 954.952  | 0.74     | 1000  | 1000 | Sin           | SoftMax         |

Table J.20: All RMSProp Results of classification problems (20/28).



| Run | Method  | Dataset        | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|----------------|----------|----------|-------|------|---------------|-----------------|
| 4   | RMSProp | pima           | 224.0    | 0.66     | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | pima           | 777.045  | 0.651    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | pima           | 224.193  | 0.742    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | pima           | 164.651  | 0.651    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | pima           | 599.999  | 0.742    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | pima           | 108.114  | 0.646    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | pima           | 215.511  | 0.651    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | pima           | 461.0    | 0.651    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | pima           | 958.055  | 0.651    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | pima           | 746.0    | 0.69     | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | post_operative | 558.325  | 0.563    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | post_operative | 920.063  | 0.655    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | post_operative | 270.962  | 0.54     | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | post_operative | 762.847  | 0.632    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | post_operative | 688.999  | 0.609    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | post_operative | 32.997   | 0.632    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | post_operative | 511.042  | 0.667    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | post_operative | 128.187  | 0.529    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | post_operative | 814.443  | 0.632    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | post_operative | 111.991  | 0.632    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | post_operative | 831.048  | 0.632    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | post_operative | 181.214  | 0.667    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | post_operative | 17.291   | 0.529    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | post_operative | 889.044  | 0.632    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | post_operative | 197.039  | 0.621    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | post_operative | 849.027  | 0.621    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | post_operative | 231.967  | 0.667    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | post_operative | 218.57   | 0.529    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | post_operative | 950.37   | 0.632    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | post_operative | 733.991  | 0.609    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | post_operative | 114.0    | 0.609    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | post_operative | 113.001  | 0.667    | 1000  | 1000 | SoftRelu      | SoftMax         |

Table J.21: All RMSProp Results of classification problems (21/28).

| Run | Method  | Dataset        | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|----------------|----------|----------|-------|------|---------------|-----------------|
| 5   | RMSProp | post_operative | 793.473  | 0.529    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | post_operative | 755.0    | 0.632    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | post_operative | 12.478   | 0.632    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | saheart        | 860.135  | 0.632    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | saheart        | 175.001  | 0.615    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | saheart        | 942.131  | 0.619    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | saheart        | 459.506  | 0.652    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | saheart        | 930.002  | 0.667    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | saheart        | 958.0    | 0.639    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | saheart        | 40.5     | 0.649    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | saheart        | 696.917  | 0.643    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | saheart        | 646.518  | 0.636    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | saheart        | 663.978  | 0.671    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | saheart        | 813.169  | 0.634    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | saheart        | 59.0     | 0.617    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | saheart        | 160.997  | 0.623    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | saheart        | 657.035  | 0.652    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | saheart        | 50.943   | 0.665    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | saheart        | 709.001  | 0.641    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | saheart        | 852.184  | 0.641    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | saheart        | 396.276  | 0.626    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | saheart        | 73.006   | 0.617    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | saheart        | 636.042  | 0.63     | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | saheart        | 544.0    | 0.658    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | saheart        | 733.001  | 0.608    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | saheart        | 383.039  | 0.654    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | saheart        | 940.489  | 0.63     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | saheart        | 964.308  | 0.66     | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | tae            | 997.999  | 0.397    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | tae            | 294.534  | 0.43     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | tae            | 882.999  | 0.444    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | tae            | 32.079   | 0.397    | 1000  | 1000 | Sigmoid       | SoftMax         |

Table J.22: All RMSProp Results of classification problems (22/28).

| Run | Method  | Dataset     | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-------------|----------|----------|-------|------|---------------|-----------------|
| 1   | RMSProp | tae         | 752.998  | 0.437    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | tae         | 315.015  | 0.43     | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | tae         | 187.943  | 0.444    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | tae         | 648.73   | 0.43     | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | tae         | 199.998  | 0.457    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | tae         | 224.0    | 0.411    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | tae         | 61.016   | 0.397    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | tae         | 698.322  | 0.444    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | tae         | 330.848  | 0.424    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | tae         | 140.035  | 0.444    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | tae         | 920.003  | 0.47     | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | tae         | 73.402   | 0.344    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | tae         | 633.548  | 0.424    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | tae         | 762.88   | 0.417    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | tae         | 248.097  | 0.397    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | tae         | 924.004  | 0.411    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | tae         | 531.038  | 0.417    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | tae         | 539.001  | 0.444    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | tae         | 87.0     | 0.444    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | tae         | 744.506  | 0.457    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | tae         | 270.39   | 0.397    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | tic_tac_toe | 284.001  | 0.683    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | tic_tac_toe | 7.592    | 0.687    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | tic_tac_toe | 872.001  | 0.63     | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | tic_tac_toe | 865.699  | 0.68     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | tic_tac_toe | 669.352  | 0.683    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | tic_tac_toe | 130.002  | 0.684    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | tic_tac_toe | 898.641  | 0.68     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | tic_tac_toe | 144.168  | 0.534    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | tic_tac_toe | 994.0    | 0.689    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | tic_tac_toe | 931.112  | 0.692    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | tic_tac_toe | 264.074  | 0.684    | 1000  | 1000 | Tanh          | SoftMax         |

Table J.23: All RMSProp Results of classification problems (23/28).

| Run | Method  | Dataset     | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-------------|----------|----------|-------|------|---------------|-----------------|
| 3   | RMSProp | tic_tac_toe | 300.58   | 0.69     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | tic_tac_toe | 703.0    | 0.573    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | tic_tac_toe | 876.001  | 0.686    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | tic_tac_toe | 121.211  | 0.693    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | tic_tac_toe | 691.738  | 0.67     | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | tic_tac_toe | 793.156  | 0.693    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | tic_tac_toe | 346.0    | 0.654    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | tic_tac_toe | 358.023  | 0.689    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | tic_tac_toe | 78.993   | 0.685    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | tic_tac_toe | 539.314  | 0.688    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | tic_tac_toe | 85.612   | 0.688    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | tic_tac_toe | 900.459  | 0.54     | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | tic_tac_toe | 638.772  | 0.691    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | tic_tac_toe | 315.962  | 0.682    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | vehicle     | 29.001   | 0.447    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | vehicle     | 961.519  | 0.235    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | vehicle     | 954.0    | 0.235    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | vehicle     | 511.001  | 0.235    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | vehicle     | 264.706  | 0.403    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | vehicle     | 694.002  | 0.469    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | vehicle     | 696.0    | 0.235    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | vehicle     | 46.201   | 0.235    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | vehicle     | 512.0    | 0.235    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | vehicle     | 557.409  | 0.39     | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | vehicle     | 852.003  | 0.446    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | vehicle     | 842.141  | 0.235    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | vehicle     | 388.001  | 0.235    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | vehicle     | 776.002  | 0.235    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | vehicle     | 943.086  | 0.382    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | vehicle     | 496.036  | 0.474    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | vehicle     | 40.555   | 0.235    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | vehicle     | 422.008  | 0.235    | 1000  | 1000 | Relu          | SoftMax         |

Table J.24: All RMSProp Results of classification problems (24/28).

| Run | Method  | Dataset | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|---------|----------|----------|-------|------|---------------|-----------------|
| 4   | RMSProp | vehicle | 778.0    | 0.235    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | vehicle | 808.998  | 0.305    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | vehicle | 127.403  | 0.418    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | vehicle | 598.965  | 0.235    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | vehicle | 587.08   | 0.235    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | vehicle | 91.973   | 0.235    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | vehicle | 6.0      | 0.239    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | vowel   | 476.78   | 0.0909   | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | vowel   | 81.034   | 0.0909   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | vowel   | 146.0    | 0.355    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | vowel   | 200.001  | 0.301    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | vowel   | 292.001  | 0.0909   | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | vowel   | 866.001  | 0.345    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | vowel   | 656.038  | 0.0909   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | vowel   | 944.0    | 0.359    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | vowel   | 823.0    | 0.0909   | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | vowel   | 697.331  | 0.0909   | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | vowel   | 860.494  | 0.0909   | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | vowel   | 65.995   | 0.0909   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | vowel   | 502.277  | 0.315    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | vowel   | 289.512  | 0.299    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | vowel   | 59.003   | 0.345    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | vowel   | 643.407  | 0.358    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | vowel   | 26.001   | 0.0909   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | vowel   | 16.512   | 0.364    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | vowel   | 538.001  | 0.292    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | vowel   | 207.096  | 0.0909   | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | vowel   | 190.989  | 0.0909   | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | vowel   | 121.037  | 0.0909   | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | vowel   | 19.001   | 0.315    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | vowel   | 408.367  | 0.298    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | vowel   | 231.514  | 0.0909   | 1000  | 1000 | Sin           | SoftMax         |

Table J.25: All RMSProp Results of classification problems (25/28).

| Run | Method  | Dataset   | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-----------|----------|----------|-------|------|---------------|-----------------|
| 1   | RMSProp | wine      | 862.893  | 0.933    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | wine      | 390.009  | 0.331    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | wine      | 678.051  | 0.331    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | wine      | 206.084  | 0.331    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | wine      | 891.057  | 0.921    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | wine      | 911.999  | 0.893    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | wine      | 620.189  | 0.331    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | wine      | 517.325  | 0.331    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | wine      | 512.998  | 0.331    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | wine      | 472.415  | 0.86     | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | wine      | 101.999  | 0.91     | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | wine      | 696.999  | 0.331    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | wine      | 273.0    | 0.331    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | wine      | 265.0    | 0.331    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | wine      | 194.008  | 0.927    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | wine      | 26.999   | 0.933    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | wine      | 767.0    | 0.331    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | wine      | 860.292  | 0.331    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | wine      | 228.496  | 0.331    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | wine      | 7.999    | 0.921    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | wine      | 616.165  | 0.944    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | wine      | 965.007  | 0.331    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | wine      | 158.021  | 0.331    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | wine      | 909.964  | 0.331    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | wine      | 321.122  | 0.927    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | wisconsin | 430.001  | 0.969    | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | wisconsin | 885.074  | 0.978    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | wisconsin | 268.872  | 0.971    | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | wisconsin | 592.014  | 0.963    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | wisconsin | 725.007  | 0.966    | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | wisconsin | 161.001  | 0.969    | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | wisconsin | 374.068  | 0.978    | 1000  | 1000 | SoftRelu      | SoftMax         |

Table J.26: All RMSProp Results of classification problems (26/28).

| Run | Method  | Dataset   | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|-----------|----------|----------|-------|------|---------------|-----------------|
| 2   | RMSProp | wisconsin | 522.001  | 0.968    | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | wisconsin | 146.058  | 0.963    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | wisconsin | 360.86   | 0.966    | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | wisconsin | 178.079  | 0.969    | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | wisconsin | 80.195   | 0.972    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | wisconsin | 199.002  | 0.971    | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | wisconsin | 241.511  | 0.965    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 3   | RMSProp | wisconsin | 273.004  | 0.966    | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | wisconsin | 777.0    | 0.971    | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | wisconsin | 250.002  | 0.975    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | wisconsin | 665.999  | 0.931    | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | wisconsin | 661.001  | 0.963    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | wisconsin | 104.123  | 0.966    | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | wisconsin | 498.143  | 0.969    | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | wisconsin | 204.0    | 0.977    | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | wisconsin | 834.022  | 0.968    | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | wisconsin | 311.241  | 0.963    | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | wisconsin | 880.845  | 0.966    | 1000  | 1000 | Sin           | SoftMax         |
| 1   | RMSProp | zoo       | 696.959  | 0.99     | 1000  | 1000 | Tanh          | SoftMax         |
| 1   | RMSProp | zoo       | 91.009   | 0.99     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 1   | RMSProp | zoo       | 173.105  | 0.99     | 1000  | 1000 | Relu          | SoftMax         |
| 1   | RMSProp | zoo       | 974.0    | 0.99     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 1   | RMSProp | zoo       | 387.034  | 0.99     | 1000  | 1000 | Sin           | SoftMax         |
| 2   | RMSProp | zoo       | 19.003   | 0.99     | 1000  | 1000 | Tanh          | SoftMax         |
| 2   | RMSProp | zoo       | 868.977  | 0.99     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 2   | RMSProp | zoo       | 18.05    | 1        | 1000  | 1000 | Relu          | SoftMax         |
| 2   | RMSProp | zoo       | 614.085  | 0.98     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 2   | RMSProp | zoo       | 930.814  | 1        | 1000  | 1000 | Sin           | SoftMax         |
| 3   | RMSProp | zoo       | 830.966  | 0.99     | 1000  | 1000 | Tanh          | SoftMax         |
| 3   | RMSProp | zoo       | 260.823  | 0.99     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 3   | RMSProp | zoo       | 937.878  | 1        | 1000  | 1000 | Relu          | SoftMax         |
| 3   | RMSProp | zoo       | 658.445  | 0.99     | 1000  | 1000 | Sigmoid       | SoftMax         |

Table J.27: All RMSProp Results of classification problems (27/28).

| Run | Method  | Dataset | Time (s) | Accuracy | $n_e$ | $k$  | $\phi(\cdot)$ | $\phi_o(\cdot)$ |
|-----|---------|---------|----------|----------|-------|------|---------------|-----------------|
| 3   | RMSProp | zoo     | 169.764  | 0.99     | 1000  | 1000 | Sin           | SoftMax         |
| 4   | RMSProp | zoo     | 839.015  | 0.99     | 1000  | 1000 | Tanh          | SoftMax         |
| 4   | RMSProp | zoo     | 250.002  | 0.99     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 4   | RMSProp | zoo     | 268.088  | 0.99     | 1000  | 1000 | Relu          | SoftMax         |
| 4   | RMSProp | zoo     | 962.966  | 0.99     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 4   | RMSProp | zoo     | 507.523  | 0.99     | 1000  | 1000 | Sin           | SoftMax         |
| 5   | RMSProp | zoo     | 150.438  | 0.99     | 1000  | 1000 | Tanh          | SoftMax         |
| 5   | RMSProp | zoo     | 893.613  | 0.99     | 1000  | 1000 | SoftRelu      | SoftMax         |
| 5   | RMSProp | zoo     | 855.95   | 1        | 1000  | 1000 | Relu          | SoftMax         |
| 5   | RMSProp | zoo     | 305.999  | 0.98     | 1000  | 1000 | Sigmoid       | SoftMax         |
| 5   | RMSProp | zoo     | 24.966   | 0.99     | 1000  | 1000 | Sin           | SoftMax         |

Table J.28: All RMSProp Results of classification problems (28/28).