

Multimedia Appendix 2

Model notations: LR/SVC/RFC/MLP - x = LR/SVC/RFC/MLP classifiers trained with input features formed of x -days of observations concatenated to create a single feature vector. RNN/LSTM/GRU - x = RNN/LSTM/GRU - RNNs with different cells using x -months long input sequences. Input feature notations: w/o posteriors = raw features used as classifier input; only posteriors = the MM component posterior probabilities used as classifier input features; w/ posteriors = raw features concatenated with the MM component posterior probabilities used as classifier input features. Model abbreviations: LR = logistic regression, SVC = support vector classifier, RFC = random forest classifier, MLP = multilayer perceptron, RNN = recurrent neural network, LSTM = long short term memory, GRU = gated recurrent unit.

Figure S1 - Classifier performance comparison plot - Emotional valence case.

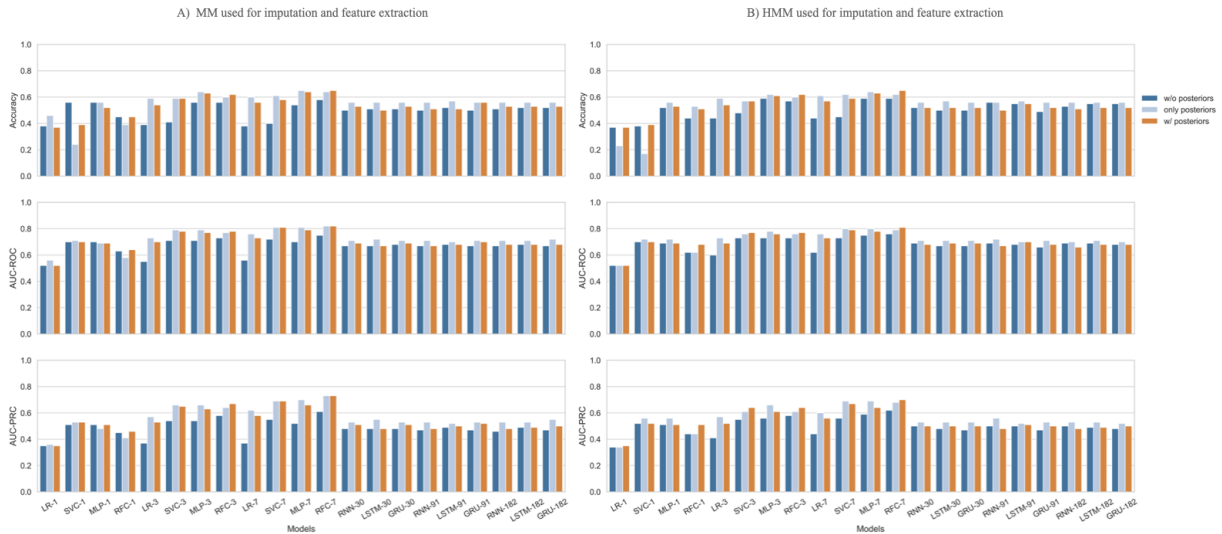


Table S1 - Classifier performance overview - Emotional valence case.

Class labels: 0 = negative, 1 = neutral, 2 = positive emotional valence.

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | | | | | | | | | | | | |
|-----------------|----------------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| LR-1 | w/o posteriors | 0.38 | 0.52 | 0.35 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>690</td><td>596</td><td>557</td></tr> <tr><td>1</td><td>201</td><td>177</td><td>176</td></tr> <tr><td>2</td><td>340</td><td>176</td><td>367</td></tr> </table> | | 0 | 1 | 2 | 0 | 690 | 596 | 557 | 1 | 201 | 177 | 176 | 2 | 340 | 176 | 367 |
| | | 0 | 1 | 2 | | | | | | | | | | | | | | | | | |
| | 0 | 690 | 596 | 557 | | | | | | | | | | | | | | | | | |
| 1 | 201 | 177 | 176 | | | | | | | | | | | | | | | | | | |
| 2 | 340 | 176 | 367 | | | | | | | | | | | | | | | | | | |
| w/ posteriors | 0.37 | 0.52 | 0.35 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>692</td><td>597</td><td>554</td></tr> <tr><td>1</td><td>201</td><td>175</td><td>178</td></tr> <tr><td>2</td><td>338</td><td>185</td><td>360</td></tr> </table> | | 0 | 1 | 2 | 0 | 692 | 597 | 554 | 1 | 201 | 175 | 178 | 2 | 338 | 185 | 360 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 692 | 597 | 554 | | | | | | | | | | | | | | | | | | |
| 1 | 201 | 175 | 178 | | | | | | | | | | | | | | | | | | |
| 2 | 338 | 185 | 360 | | | | | | | | | | | | | | | | | | |
| only posteriors | 0.46 | 0.56 | 0.36 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1038</td><td>0</td><td>805</td></tr> <tr><td>1</td><td>296</td><td>0</td><td>258</td></tr> <tr><td>2</td><td>406</td><td>0</td><td>477</td></tr> </table> | | 0 | 1 | 2 | 0 | 1038 | 0 | 805 | 1 | 296 | 0 | 258 | 2 | 406 | 0 | 477 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1038 | 0 | 805 | | | | | | | | | | | | | | | | | | |
| 1 | 296 | 0 | 258 | | | | | | | | | | | | | | | | | | |
| 2 | 406 | 0 | 477 | | | | | | | | | | | | | | | | | | |
| LR-3 | w/o posteriors | 0.39 | 0.55 | 0.37 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>622</td><td>687</td><td>500</td></tr> <tr><td>1</td><td>188</td><td>170</td><td>175</td></tr> <tr><td>2</td><td>238</td><td>170</td><td>450</td></tr> </table> | | 0 | 1 | 2 | 0 | 622 | 687 | 500 | 1 | 188 | 170 | 175 | 2 | 238 | 170 | 450 |
| | | 0 | 1 | 2 | | | | | | | | | | | | | | | | | |
| 0 | 622 | 687 | 500 | | | | | | | | | | | | | | | | | | |
| 1 | 188 | 170 | 175 | | | | | | | | | | | | | | | | | | |
| 2 | 238 | 170 | 450 | | | | | | | | | | | | | | | | | | |
| w/ posteriors | 0.54 | 0.7 | 0.53 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1050</td><td>467</td><td>292</td></tr> <tr><td>1</td><td>173</td><td>196</td><td>164</td></tr> <tr><td>2</td><td>197</td><td>181</td><td>480</td></tr> </table> | | 0 | 1 | 2 | 0 | 1050 | 467 | 292 | 1 | 173 | 196 | 164 | 2 | 197 | 181 | 480 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1050 | 467 | 292 | | | | | | | | | | | | | | | | | | |
| 1 | 173 | 196 | 164 | | | | | | | | | | | | | | | | | | |
| 2 | 197 | 181 | 480 | | | | | | | | | | | | | | | | | | |

Table S1 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | |
|-----------------|-----------------|----------|---------|---------|------------------|------|-----|-----|
| LR-7 | only posteriors | 0.59 | 0.73 | 0.57 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1235 | 297 | 277 |
| | | | | | 2 | 213 | 147 | 173 |
| | w/o posteriors | 0.38 | 0.56 | 0.37 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 592 | 699 | 458 |
| | | | | | 2 | 185 | 149 | 168 |
| | w/ posteriors | 0.56 | 0.73 | 0.58 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1074 | 403 | 272 |
| | | | | | 2 | 158 | 193 | 151 |
| MLP-1 | only posteriors | 0.6 | 0.76 | 0.62 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1226 | 275 | 248 |
| | | | | | 2 | 192 | 159 | 151 |
| | w/o posteriors | 0.56 | 0.7 | 0.51 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1837 | 4 | 2 |
| | | | | | 2 | 554 | 0 | 0 |
| | w/ posteriors | 0.52 | 0.69 | 0.51 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 878 | 2 | 3 |
| | | | | | 2 | 1572 | 110 | 161 |
| MLP-3 | only posteriors | 0.56 | 0.69 | 0.48 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1843 | 0 | 0 |
| | | | | | 2 | 554 | 0 | 0 |
| | w/o posteriors | 0.56 | 0.71 | 0.54 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1474 | 188 | 147 |
| | | | | | 2 | 414 | 43 | 76 |
| | w/ posteriors | 0.63 | 0.77 | 0.63 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 557 | 38 | 263 |
| | | | | | 2 | 1515 | 102 | 192 |
| MLP-7 | only posteriors | 0.64 | 0.79 | 0.66 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1595 | 33 | 181 |
| | | | | | 2 | 358 | 44 | 131 |
| | w/o posteriors | 0.54 | 0.7 | 0.52 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 1418 | 97 | 234 |
| | | | | | 2 | 397 | 27 | 78 |
| | w/ posteriors | 0.64 | 0.79 | 0.66 | 0 | 0 | 1 | 2 |
| | | | | | 1 | 564 | 35 | 219 |
| | | | | | 2 | 1474 | 96 | 179 |
| only posteriors | 0.65 | 0.81 | 0.7 | 0 | 0 | 1 | 2 | |
| | | | | 1 | 1533 | 51 | 165 | |
| | | | | 2 | 307 | 66 | 129 | |
| | | | | | 0 | 1 | 2 | |
| | | | | | 1 | 1474 | 96 | 179 |
| | | | | | 2 | 310 | 88 | 104 |
| | | | | | | 0 | 1 | 2 |
| | | | | | 0 | 1533 | 51 | 165 |
| | | | | | 1 | 307 | 66 | 129 |
| | | | | | 2 | 368 | 45 | 405 |

Table S1 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | | | | | | | | | | | | |
|-----------------|----------------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RFC-1 | w/o posteriors | 0.45 | 0.63 | 0.45 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1072</td><td>350</td><td>421</td></tr> <tr><td>1</td><td>306</td><td>99</td><td>149</td></tr> <tr><td>2</td><td>461</td><td>128</td><td>294</td></tr> </table> | | 0 | 1 | 2 | 0 | 1072 | 350 | 421 | 1 | 306 | 99 | 149 | 2 | 461 | 128 | 294 |
| | | 0 | 1 | 2 | | | | | | | | | | | | | | | | | |
| | 0 | 1072 | 350 | 421 | | | | | | | | | | | | | | | | | |
| 1 | 306 | 99 | 149 | | | | | | | | | | | | | | | | | | |
| 2 | 461 | 128 | 294 | | | | | | | | | | | | | | | | | | |
| w/ posteriors | 0.45 | 0.64 | 0.46 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1097</td><td>314</td><td>432</td></tr> <tr><td>1</td><td>320</td><td>68</td><td>166</td></tr> <tr><td>2</td><td>472</td><td>98</td><td>313</td></tr> </table> | | 0 | 1 | 2 | 0 | 1097 | 314 | 432 | 1 | 320 | 68 | 166 | 2 | 472 | 98 | 313 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1097 | 314 | 432 | | | | | | | | | | | | | | | | | | |
| 1 | 320 | 68 | 166 | | | | | | | | | | | | | | | | | | |
| 2 | 472 | 98 | 313 | | | | | | | | | | | | | | | | | | |
| only posteriors | 0.39 | 0.58 | 0.41 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>856</td><td>421</td><td>566</td></tr> <tr><td>1</td><td>251</td><td>119</td><td>184</td></tr> <tr><td>2</td><td>409</td><td>170</td><td>304</td></tr> </table> | | 0 | 1 | 2 | 0 | 856 | 421 | 566 | 1 | 251 | 119 | 184 | 2 | 409 | 170 | 304 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 856 | 421 | 566 | | | | | | | | | | | | | | | | | | |
| 1 | 251 | 119 | 184 | | | | | | | | | | | | | | | | | | |
| 2 | 409 | 170 | 304 | | | | | | | | | | | | | | | | | | |
| RFC-3 | w/o posteriors | 0.56 | 0.73 | 0.58 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1240</td><td>257</td><td>312</td></tr> <tr><td>1</td><td>287</td><td>85</td><td>161</td></tr> <tr><td>2</td><td>307</td><td>70</td><td>481</td></tr> </table> | | 0 | 1 | 2 | 0 | 1240 | 257 | 312 | 1 | 287 | 85 | 161 | 2 | 307 | 70 | 481 |
| | | 0 | 1 | 2 | | | | | | | | | | | | | | | | | |
| | 0 | 1240 | 257 | 312 | | | | | | | | | | | | | | | | | |
| 1 | 287 | 85 | 161 | | | | | | | | | | | | | | | | | | |
| 2 | 307 | 70 | 481 | | | | | | | | | | | | | | | | | | |
| w/ posteriors | 0.62 | 0.78 | 0.67 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1355</td><td>160</td><td>294</td></tr> <tr><td>1</td><td>246</td><td>101</td><td>186</td></tr> <tr><td>2</td><td>259</td><td>67</td><td>532</td></tr> </table> | | 0 | 1 | 2 | 0 | 1355 | 160 | 294 | 1 | 246 | 101 | 186 | 2 | 259 | 67 | 532 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1355 | 160 | 294 | | | | | | | | | | | | | | | | | | |
| 1 | 246 | 101 | 186 | | | | | | | | | | | | | | | | | | |
| 2 | 259 | 67 | 532 | | | | | | | | | | | | | | | | | | |
| only posteriors | 0.6 | 0.77 | 0.64 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1258</td><td>213</td><td>338</td></tr> <tr><td>1</td><td>190</td><td>137</td><td>206</td></tr> <tr><td>2</td><td>221</td><td>113</td><td>524</td></tr> </table> | | 0 | 1 | 2 | 0 | 1258 | 213 | 338 | 1 | 190 | 137 | 206 | 2 | 221 | 113 | 524 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1258 | 213 | 338 | | | | | | | | | | | | | | | | | | |
| 1 | 190 | 137 | 206 | | | | | | | | | | | | | | | | | | |
| 2 | 221 | 113 | 524 | | | | | | | | | | | | | | | | | | |
| RFC-7 | w/o posteriors | 0.58 | 0.75 | 0.61 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1256</td><td>211</td><td>282</td></tr> <tr><td>1</td><td>283</td><td>55</td><td>164</td></tr> <tr><td>2</td><td>290</td><td>50</td><td>478</td></tr> </table> | | 0 | 1 | 2 | 0 | 1256 | 211 | 282 | 1 | 283 | 55 | 164 | 2 | 290 | 50 | 478 |
| | | 0 | 1 | 2 | | | | | | | | | | | | | | | | | |
| | 0 | 1256 | 211 | 282 | | | | | | | | | | | | | | | | | |
| 1 | 283 | 55 | 164 | | | | | | | | | | | | | | | | | | |
| 2 | 290 | 50 | 478 | | | | | | | | | | | | | | | | | | |
| w/ posteriors | 0.65 | 0.82 | 0.73 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1369</td><td>76</td><td>304</td></tr> <tr><td>1</td><td>228</td><td>89</td><td>185</td></tr> <tr><td>2</td><td>238</td><td>50</td><td>530</td></tr> </table> | | 0 | 1 | 2 | 0 | 1369 | 76 | 304 | 1 | 228 | 89 | 185 | 2 | 238 | 50 | 530 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1369 | 76 | 304 | | | | | | | | | | | | | | | | | | |
| 1 | 228 | 89 | 185 | | | | | | | | | | | | | | | | | | |
| 2 | 238 | 50 | 530 | | | | | | | | | | | | | | | | | | |
| only posteriors | 0.64 | 0.82 | 0.73 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1327</td><td>107</td><td>315</td></tr> <tr><td>1</td><td>194</td><td>99</td><td>209</td></tr> <tr><td>2</td><td>196</td><td>73</td><td>549</td></tr> </table> | | 0 | 1 | 2 | 0 | 1327 | 107 | 315 | 1 | 194 | 99 | 209 | 2 | 196 | 73 | 549 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1327 | 107 | 315 | | | | | | | | | | | | | | | | | | |
| 1 | 194 | 99 | 209 | | | | | | | | | | | | | | | | | | |
| 2 | 196 | 73 | 549 | | | | | | | | | | | | | | | | | | |
| SVC-1 | w/o posteriors | 0.56 | 0.7 | 0.51 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1837</td><td>4</td><td>2</td></tr> <tr><td>1</td><td>554</td><td>0</td><td>0</td></tr> <tr><td>2</td><td>878</td><td>2</td><td>3</td></tr> </table> | | 0 | 1 | 2 | 0 | 1837 | 4 | 2 | 1 | 554 | 0 | 0 | 2 | 878 | 2 | 3 |
| | | 0 | 1 | 2 | | | | | | | | | | | | | | | | | |
| | 0 | 1837 | 4 | 2 | | | | | | | | | | | | | | | | | |
| 1 | 554 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| 2 | 878 | 2 | 3 | | | | | | | | | | | | | | | | | | |
| w/ posteriors | 0.39 | 0.7 | 0.53 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>775</td><td>563</td><td>505</td></tr> <tr><td>1</td><td>221</td><td>149</td><td>184</td></tr> <tr><td>2</td><td>378</td><td>156</td><td>349</td></tr> </table> | | 0 | 1 | 2 | 0 | 775 | 563 | 505 | 1 | 221 | 149 | 184 | 2 | 378 | 156 | 349 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 775 | 563 | 505 | | | | | | | | | | | | | | | | | | |
| 1 | 221 | 149 | 184 | | | | | | | | | | | | | | | | | | |
| 2 | 378 | 156 | 349 | | | | | | | | | | | | | | | | | | |
| only posteriors | 0.24 | 0.71 | 0.53 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>0</td><td>1048</td><td>795</td></tr> <tr><td>1</td><td>0</td><td>297</td><td>257</td></tr> <tr><td>2</td><td>0</td><td>409</td><td>474</td></tr> </table> | | 0 | 1 | 2 | 0 | 0 | 1048 | 795 | 1 | 0 | 297 | 257 | 2 | 0 | 409 | 474 | |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 0 | 1048 | 795 | | | | | | | | | | | | | | | | | | |
| 1 | 0 | 297 | 257 | | | | | | | | | | | | | | | | | | |
| 2 | 0 | 409 | 474 | | | | | | | | | | | | | | | | | | |
| SVC-3 | w/o posteriors | 0.41 | 0.71 | 0.54 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>714</td><td>616</td><td>479</td></tr> <tr><td>1</td><td>222</td><td>156</td><td>155</td></tr> <tr><td>2</td><td>267</td><td>162</td><td>429</td></tr> </table> | | 0 | 1 | 2 | 0 | 714 | 616 | 479 | 1 | 222 | 156 | 155 | 2 | 267 | 162 | 429 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 714 | 616 | 479 | | | | | | | | | | | | | | | | | | |
| 1 | 222 | 156 | 155 | | | | | | | | | | | | | | | | | | |
| 2 | 267 | 162 | 429 | | | | | | | | | | | | | | | | | | |

Table S1 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | | | | | | | | | | | | |
|---------|-----------------|----------|---------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|---|---|---|------|-----|-----|---|-----|-----|-----|---|-----|-----|-----|
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1271</td><td>286</td><td>252</td></tr> <tr><td>1</td><td>231</td><td>157</td><td>145</td></tr> <tr><td>2</td><td>276</td><td>132</td><td>450</td></tr> </table> | | 0 | 1 | 2 | 0 | 1271 | 286 | 252 | 1 | 231 | 157 | 145 | 2 | 276 | 132 | 450 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1271 | 286 | 252 | | | | | | | | | | | | | | | | | | |
| 1 | 231 | 157 | 145 | | | | | | | | | | | | | | | | | | |
| 2 | 276 | 132 | 450 | | | | | | | | | | | | | | | | | | |
| | w/ posteriors | 0.59 | 0.78 | 0.65 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1259</td><td>285</td><td>265</td></tr> <tr><td>1</td><td>225</td><td>146</td><td>162</td></tr> <tr><td>2</td><td>253</td><td>124</td><td>481</td></tr> </table> | | 0 | 1 | 2 | 0 | 1259 | 285 | 265 | 1 | 225 | 146 | 162 | 2 | 253 | 124 | 481 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1259 | 285 | 265 | | | | | | | | | | | | | | | | | | |
| 1 | 225 | 146 | 162 | | | | | | | | | | | | | | | | | | |
| 2 | 253 | 124 | 481 | | | | | | | | | | | | | | | | | | |
| | only posteriors | 0.59 | 0.79 | 0.66 | | | | | | | | | | | | | | | | | |
| SVC-7 | w/o posteriors | 0.4 | 0.72 | 0.55 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>679</td><td>634</td><td>436</td></tr> <tr><td>1</td><td>198</td><td>126</td><td>178</td></tr> <tr><td>2</td><td>237</td><td>150</td><td>431</td></tr> </table> | | 0 | 1 | 2 | 0 | 679 | 634 | 436 | 1 | 198 | 126 | 178 | 2 | 237 | 150 | 431 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 679 | 634 | 436 | | | | | | | | | | | | | | | | | | |
| 1 | 198 | 126 | 178 | | | | | | | | | | | | | | | | | | |
| 2 | 237 | 150 | 431 | | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1170</td><td>321</td><td>258</td></tr> <tr><td>1</td><td>176</td><td>169</td><td>157</td></tr> <tr><td>2</td><td>196</td><td>166</td><td>456</td></tr> </table> | | 0 | 1 | 2 | 0 | 1170 | 321 | 258 | 1 | 176 | 169 | 157 | 2 | 196 | 166 | 456 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1170 | 321 | 258 | | | | | | | | | | | | | | | | | | |
| 1 | 176 | 169 | 157 | | | | | | | | | | | | | | | | | | |
| 2 | 196 | 166 | 456 | | | | | | | | | | | | | | | | | | |
| | w/ posteriors | 0.58 | 0.81 | 0.69 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1274</td><td>239</td><td>236</td></tr> <tr><td>1</td><td>203</td><td>144</td><td>155</td></tr> <tr><td>2</td><td>235</td><td>122</td><td>461</td></tr> </table> | | 0 | 1 | 2 | 0 | 1274 | 239 | 236 | 1 | 203 | 144 | 155 | 2 | 235 | 122 | 461 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1274 | 239 | 236 | | | | | | | | | | | | | | | | | | |
| 1 | 203 | 144 | 155 | | | | | | | | | | | | | | | | | | |
| 2 | 235 | 122 | 461 | | | | | | | | | | | | | | | | | | |
| | only posteriors | 0.61 | 0.81 | 0.69 | | | | | | | | | | | | | | | | | |
| RNN-30 | w/o posteriors | 0.5 | 0.67 | 0.48 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1283</td><td>142</td><td>263</td></tr> <tr><td>1</td><td>387</td><td>31</td><td>80</td></tr> <tr><td>2</td><td>597</td><td>32</td><td>185</td></tr> </table> | | 0 | 1 | 2 | 0 | 1283 | 142 | 263 | 1 | 387 | 31 | 80 | 2 | 597 | 32 | 185 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1283 | 142 | 263 | | | | | | | | | | | | | | | | | | |
| 1 | 387 | 31 | 80 | | | | | | | | | | | | | | | | | | |
| 2 | 597 | 32 | 185 | | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1468</td><td>57</td><td>163</td></tr> <tr><td>1</td><td>432</td><td>12</td><td>54</td></tr> <tr><td>2</td><td>687</td><td>10</td><td>117</td></tr> </table> | | 0 | 1 | 2 | 0 | 1468 | 57 | 163 | 1 | 432 | 12 | 54 | 2 | 687 | 10 | 117 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1468 | 57 | 163 | | | | | | | | | | | | | | | | | | |
| 1 | 432 | 12 | 54 | | | | | | | | | | | | | | | | | | |
| 2 | 687 | 10 | 117 | | | | | | | | | | | | | | | | | | |
| | w/ posteriors | 0.53 | 0.69 | 0.51 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1661</td><td>0</td><td>27</td></tr> <tr><td>1</td><td>490</td><td>0</td><td>8</td></tr> <tr><td>2</td><td>789</td><td>0</td><td>25</td></tr> </table> | | 0 | 1 | 2 | 0 | 1661 | 0 | 27 | 1 | 490 | 0 | 8 | 2 | 789 | 0 | 25 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1661 | 0 | 27 | | | | | | | | | | | | | | | | | | |
| 1 | 490 | 0 | 8 | | | | | | | | | | | | | | | | | | |
| 2 | 789 | 0 | 25 | | | | | | | | | | | | | | | | | | |
| | only posteriors | 0.56 | 0.71 | 0.53 | | | | | | | | | | | | | | | | | |
| RNN-91 | w/o posteriors | 0.5 | 0.67 | 0.47 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1411</td><td>150</td><td>188</td></tr> <tr><td>1</td><td>449</td><td>31</td><td>54</td></tr> <tr><td>2</td><td>684</td><td>25</td><td>132</td></tr> </table> | | 0 | 1 | 2 | 0 | 1411 | 150 | 188 | 1 | 449 | 31 | 54 | 2 | 684 | 25 | 132 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1411 | 150 | 188 | | | | | | | | | | | | | | | | | | |
| 1 | 449 | 31 | 54 | | | | | | | | | | | | | | | | | | |
| 2 | 684 | 25 | 132 | | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1440</td><td>170</td><td>139</td></tr> <tr><td>1</td><td>459</td><td>33</td><td>42</td></tr> <tr><td>2</td><td>688</td><td>25</td><td>128</td></tr> </table> | | 0 | 1 | 2 | 0 | 1440 | 170 | 139 | 1 | 459 | 33 | 42 | 2 | 688 | 25 | 128 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1440 | 170 | 139 | | | | | | | | | | | | | | | | | | |
| 1 | 459 | 33 | 42 | | | | | | | | | | | | | | | | | | |
| 2 | 688 | 25 | 128 | | | | | | | | | | | | | | | | | | |
| | w/ posteriors | 0.51 | 0.67 | 0.48 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1749</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>534</td><td>0</td><td>0</td></tr> <tr><td>2</td><td>841</td><td>0</td><td>0</td></tr> </table> | | 0 | 1 | 2 | 0 | 1749 | 0 | 0 | 1 | 534 | 0 | 0 | 2 | 841 | 0 | 0 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1749 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| 1 | 534 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| 2 | 841 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| | only posteriors | 0.56 | 0.71 | 0.53 | | | | | | | | | | | | | | | | | |
| RNN-182 | w/o posteriors | 0.51 | 0.67 | 0.46 | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1382</td><td>115</td><td>279</td></tr> <tr><td>1</td><td>419</td><td>33</td><td>84</td></tr> <tr><td>2</td><td>637</td><td>27</td><td>187</td></tr> </table> | | 0 | 1 | 2 | 0 | 1382 | 115 | 279 | 1 | 419 | 33 | 84 | 2 | 637 | 27 | 187 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1382 | 115 | 279 | | | | | | | | | | | | | | | | | | |
| 1 | 419 | 33 | 84 | | | | | | | | | | | | | | | | | | |
| 2 | 637 | 27 | 187 | | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1508</td><td>139</td><td>129</td></tr> <tr><td>1</td><td>459</td><td>32</td><td>45</td></tr> <tr><td>2</td><td>707</td><td>23</td><td>121</td></tr> </table> | | 0 | 1 | 2 | 0 | 1508 | 139 | 129 | 1 | 459 | 32 | 45 | 2 | 707 | 23 | 121 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1508 | 139 | 129 | | | | | | | | | | | | | | | | | | |
| 1 | 459 | 32 | 45 | | | | | | | | | | | | | | | | | | |
| 2 | 707 | 23 | 121 | | | | | | | | | | | | | | | | | | |
| | w/ posteriors | 0.53 | 0.68 | 0.48 | | | | | | | | | | | | | | | | | |

Table S1 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | | | | | | | | | | | | |
|----------|-----------------|----------|---------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|---|---|---|------|-----|-----|---|-----|----|----|---|-----|----|-----|
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1705</td><td>0</td><td>71</td></tr> <tr><td>1</td><td>512</td><td>0</td><td>24</td></tr> <tr><td>2</td><td>770</td><td>0</td><td>81</td></tr> </table> | | 0 | 1 | 2 | 0 | 1705 | 0 | 71 | 1 | 512 | 0 | 24 | 2 | 770 | 0 | 81 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1705 | 0 | 71 | | | | | | | | | | | | | | | | | | |
| 1 | 512 | 0 | 24 | | | | | | | | | | | | | | | | | | |
| 2 | 770 | 0 | 81 | | | | | | | | | | | | | | | | | | |
| LSTM-30 | only posteriors | 0.56 | 0.71 | 0.53 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1336</td><td>139</td><td>213</td></tr> <tr><td>1</td><td>401</td><td>30</td><td>67</td></tr> <tr><td>2</td><td>626</td><td>27</td><td>161</td></tr> </table> | | 0 | 1 | 2 | 0 | 1336 | 139 | 213 | 1 | 401 | 30 | 67 | 2 | 626 | 27 | 161 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1336 | 139 | 213 | | | | | | | | | | | | | | | | | | |
| 1 | 401 | 30 | 67 | | | | | | | | | | | | | | | | | | |
| 2 | 626 | 27 | 161 | | | | | | | | | | | | | | | | | | |
| LSTM-30 | w/o posteriors | 0.51 | 0.67 | 0.48 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1303</td><td>146</td><td>239</td></tr> <tr><td>1</td><td>408</td><td>17</td><td>73</td></tr> <tr><td>2</td><td>585</td><td>44</td><td>185</td></tr> </table> | | 0 | 1 | 2 | 0 | 1303 | 146 | 239 | 1 | 408 | 17 | 73 | 2 | 585 | 44 | 185 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1303 | 146 | 239 | | | | | | | | | | | | | | | | | | |
| 1 | 408 | 17 | 73 | | | | | | | | | | | | | | | | | | |
| 2 | 585 | 44 | 185 | | | | | | | | | | | | | | | | | | |
| LSTM-30 | w/ posteriors | 0.5 | 0.67 | 0.48 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1688</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>498</td><td>0</td><td>0</td></tr> <tr><td>2</td><td>814</td><td>0</td><td>0</td></tr> </table> | | 0 | 1 | 2 | 0 | 1688 | 0 | 0 | 1 | 498 | 0 | 0 | 2 | 814 | 0 | 0 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1688 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| 1 | 498 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| 2 | 814 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| LSTM-91 | only posteriors | 0.56 | 0.72 | 0.55 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1483</td><td>82</td><td>184</td></tr> <tr><td>1</td><td>444</td><td>28</td><td>62</td></tr> <tr><td>2</td><td>709</td><td>18</td><td>114</td></tr> </table> | | 0 | 1 | 2 | 0 | 1483 | 82 | 184 | 1 | 444 | 28 | 62 | 2 | 709 | 18 | 114 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1483 | 82 | 184 | | | | | | | | | | | | | | | | | | |
| 1 | 444 | 28 | 62 | | | | | | | | | | | | | | | | | | |
| 2 | 709 | 18 | 114 | | | | | | | | | | | | | | | | | | |
| LSTM-91 | w/o posteriors | 0.52 | 0.68 | 0.49 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1418</td><td>134</td><td>197</td></tr> <tr><td>1</td><td>441</td><td>31</td><td>62</td></tr> <tr><td>2</td><td>681</td><td>18</td><td>142</td></tr> </table> | | 0 | 1 | 2 | 0 | 1418 | 134 | 197 | 1 | 441 | 31 | 62 | 2 | 681 | 18 | 142 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1418 | 134 | 197 | | | | | | | | | | | | | | | | | | |
| 1 | 441 | 31 | 62 | | | | | | | | | | | | | | | | | | |
| 2 | 681 | 18 | 142 | | | | | | | | | | | | | | | | | | |
| LSTM-91 | w/ posteriors | 0.51 | 0.68 | 0.5 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1669</td><td>0</td><td>80</td></tr> <tr><td>1</td><td>492</td><td>0</td><td>42</td></tr> <tr><td>2</td><td>729</td><td>0</td><td>112</td></tr> </table> | | 0 | 1 | 2 | 0 | 1669 | 0 | 80 | 1 | 492 | 0 | 42 | 2 | 729 | 0 | 112 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1669 | 0 | 80 | | | | | | | | | | | | | | | | | | |
| 1 | 492 | 0 | 42 | | | | | | | | | | | | | | | | | | |
| 2 | 729 | 0 | 112 | | | | | | | | | | | | | | | | | | |
| LSTM-182 | only posteriors | 0.57 | 0.7 | 0.52 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1520</td><td>100</td><td>156</td></tr> <tr><td>1</td><td>470</td><td>31</td><td>35</td></tr> <tr><td>2</td><td>750</td><td>22</td><td>79</td></tr> </table> | | 0 | 1 | 2 | 0 | 1520 | 100 | 156 | 1 | 470 | 31 | 35 | 2 | 750 | 22 | 79 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1520 | 100 | 156 | | | | | | | | | | | | | | | | | | |
| 1 | 470 | 31 | 35 | | | | | | | | | | | | | | | | | | |
| 2 | 750 | 22 | 79 | | | | | | | | | | | | | | | | | | |
| LSTM-182 | w/o posteriors | 0.52 | 0.68 | 0.49 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1583</td><td>71</td><td>122</td></tr> <tr><td>1</td><td>487</td><td>25</td><td>24</td></tr> <tr><td>2</td><td>756</td><td>21</td><td>74</td></tr> </table> | | 0 | 1 | 2 | 0 | 1583 | 71 | 122 | 1 | 487 | 25 | 24 | 2 | 756 | 21 | 74 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1583 | 71 | 122 | | | | | | | | | | | | | | | | | | |
| 1 | 487 | 25 | 24 | | | | | | | | | | | | | | | | | | |
| 2 | 756 | 21 | 74 | | | | | | | | | | | | | | | | | | |
| LSTM-182 | w/ posteriors | 0.53 | 0.68 | 0.49 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1776</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>536</td><td>0</td><td>0</td></tr> <tr><td>2</td><td>851</td><td>0</td><td>0</td></tr> </table> | | 0 | 1 | 2 | 0 | 1776 | 0 | 0 | 1 | 536 | 0 | 0 | 2 | 851 | 0 | 0 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1776 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| 1 | 536 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| 2 | 851 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| LSTM-182 | only posteriors | 0.56 | 0.71 | 0.53 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1363</td><td>114</td><td>211</td></tr> <tr><td>1</td><td>401</td><td>32</td><td>65</td></tr> <tr><td>2</td><td>649</td><td>24</td><td>141</td></tr> </table> | | 0 | 1 | 2 | 0 | 1363 | 114 | 211 | 1 | 401 | 32 | 65 | 2 | 649 | 24 | 141 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1363 | 114 | 211 | | | | | | | | | | | | | | | | | | |
| 1 | 401 | 32 | 65 | | | | | | | | | | | | | | | | | | |
| 2 | 649 | 24 | 141 | | | | | | | | | | | | | | | | | | |
| GRU-30 | w/o posteriors | 0.51 | 0.68 | 0.48 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1379</td><td>77</td><td>232</td></tr> <tr><td>1</td><td>418</td><td>17</td><td>63</td></tr> <tr><td>2</td><td>613</td><td>18</td><td>183</td></tr> </table> | | 0 | 1 | 2 | 0 | 1379 | 77 | 232 | 1 | 418 | 17 | 63 | 2 | 613 | 18 | 183 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1379 | 77 | 232 | | | | | | | | | | | | | | | | | | |
| 1 | 418 | 17 | 63 | | | | | | | | | | | | | | | | | | |
| 2 | 613 | 18 | 183 | | | | | | | | | | | | | | | | | | |
| GRU-30 | w/ posteriors | 0.53 | 0.69 | 0.51 | | | | | | | | | | | | | | | | | |
| | | | | | <table border="1"> <tr><td></td><td>0</td><td>1</td><td>2</td></tr> <tr><td>0</td><td>1663</td><td>0</td><td>25</td></tr> <tr><td>1</td><td>490</td><td>0</td><td>8</td></tr> <tr><td>2</td><td>791</td><td>0</td><td>23</td></tr> </table> | | 0 | 1 | 2 | 0 | 1663 | 0 | 25 | 1 | 490 | 0 | 8 | 2 | 791 | 0 | 23 |
| | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 0 | 1663 | 0 | 25 | | | | | | | | | | | | | | | | | | |
| 1 | 490 | 0 | 8 | | | | | | | | | | | | | | | | | | |
| 2 | 791 | 0 | 23 | | | | | | | | | | | | | | | | | | |
| GRU-30 | only posteriors | 0.56 | 0.71 | 0.53 | | | | | | | | | | | | | | | | | |

Table S1 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | |
|---------|-----------------|----------|---------|---------|------------------|------|-----|-----|
| GRU-91 | w/o posteriors | 0.5 | 0.67 | 0.47 | 0 | 1 | 2 | |
| | | | | | 0 | 1414 | 144 | 191 |
| | | | | | 1 | 441 | 35 | 58 |
| | 2 | 689 | 36 | 116 | | | | |
| | w/ posteriors | 0.56 | 0.7 | 0.52 | 0 | 1 | 2 | |
| | | | | | 0 | 1742 | 3 | 4 |
| | | | | | 1 | 531 | 1 | 2 |
| | 2 | 826 | 0 | 15 | | | | |
| | only posteriors | 0.56 | 0.71 | 0.53 | 0 | 1 | 2 | |
| 0 | | | | | 1743 | 1 | 5 | |
| 1 | | | | | 533 | 0 | 1 | |
| 2 | 840 | 0 | 1 | | | | | |
| GRU-182 | w/o posteriors | 0.52 | 0.67 | 0.47 | 0 | 1 | 2 | |
| | | | | | 0 | 1518 | 93 | 165 |
| | | | | | 1 | 465 | 28 | 43 |
| | 2 | 726 | 37 | 88 | | | | |
| | w/ posteriors | 0.53 | 0.68 | 0.5 | 0 | 1 | 2 | |
| | | | | | 0 | 1527 | 94 | 155 |
| | | | | | 1 | 467 | 30 | 39 |
| | 2 | 707 | 34 | 110 | | | | |
| | only posteriors | 0.56 | 0.72 | 0.55 | 0 | 1 | 2 | |
| 0 | | | | | 1774 | 0 | 2 | |
| 1 | | | | | 535 | 0 | 1 | |
| 2 | 851 | 0 | 0 | | | | | |

Table S2 - Classifier performance overview - Emotional arousal-valence case.

Class labels: 0 - neutral, 1 - high arousal - positive valence, 2 - high arousal - negative valence, 3 - low arousal - negative valence, 4 - low arousal - positive valence.

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | |
|-------|-----------------|----------|---------|---------|------------------|-----|-----|-----|-----|-----|
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| LR-1 | w/o posteriors | 0.27 | 0.52 | 0.22 | 0 | 155 | 165 | 6 | 181 | 47 |
| | 1 | | | | 124 | 271 | 5 | 206 | 47 | |
| | 2 | | | | 150 | 138 | 0 | 168 | 24 | |
| | | | | | 3 | 431 | 397 | 2 | 438 | 95 |
| | | | | | 4 | 48 | 74 | 0 | 76 | 32 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | w/ posteriors | 0.27 | 0.52 | 0.22 | 0 | 155 | 165 | 6 | 181 | 47 |
| | | | | | 1 | 124 | 271 | 5 | 206 | 47 |
| | | | | | 2 | 150 | 138 | 0 | 168 | 24 |
| | | | | | 3 | 431 | 397 | 2 | 438 | 95 |
| | | | | | 4 | 48 | 74 | 0 | 76 | 32 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | only posteriors | 0.16 | 0.54 | 0.21 | 0 | 314 | 123 | 0 | 13 | 104 |
| | | | | | 1 | 308 | 139 | 0 | 26 | 180 |
| | | | | | 2 | 292 | 81 | 0 | 19 | 88 |
| | | | | | 3 | 798 | 260 | 0 | 41 | 264 |
| | | | | | 4 | 114 | 67 | 0 | 10 | 39 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| LR-3 | w/o posteriors | 0.27 | 0.53 | 0.22 | 0 | 177 | 134 | 27 | 87 | 108 |
| | 1 | | | | 111 | 240 | 22 | 134 | 123 | |
| | 2 | | | | 158 | 129 | 19 | 98 | 66 | |
| | | | | | 3 | 422 | 337 | 43 | 349 | 188 |
| | | | | | 4 | 45 | 58 | 9 | 50 | 66 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | w/ posteriors | 0.29 | 0.56 | 0.24 | 0 | 206 | 122 | 68 | 80 | 57 |
| | | | | | 1 | 129 | 230 | 50 | 140 | 81 |
| | | | | | 2 | 117 | 108 | 128 | 82 | 35 |
| | | | | | 3 | 338 | 334 | 218 | 311 | 138 |
| | | | | | 4 | 61 | 65 | 16 | 36 | 50 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | only posteriors | 0.34 | 0.63 | 0.29 | 0 | 174 | 69 | 81 | 96 | 113 |
| | | | | | 1 | 99 | 142 | 63 | 154 | 172 |
| | | | | | 2 | 90 | 55 | 155 | 108 | 62 |
| | | | | | 3 | 225 | 132 | 283 | 540 | 159 |
| | | | | | 4 | 49 | 28 | 19 | 55 | 77 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| LR-7 | w/o posteriors | 0.26 | 0.53 | 0.22 | 0 | 151 | 120 | 15 | 121 | 95 |
| | 1 | | | | 99 | 237 | 19 | 148 | 92 | |
| | 2 | | | | 153 | 126 | 19 | 104 | 53 | |
| | | | | | 3 | 427 | 343 | 50 | 321 | 153 |
| | | | | | 4 | 51 | 59 | 5 | 51 | 57 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | w/ posteriors | 0.28 | 0.56 | 0.24 | 0 | 183 | 98 | 55 | 78 | 88 |
| | | | | | 1 | 109 | 211 | 34 | 142 | 99 |
| | | | | | 2 | 115 | 85 | 133 | 66 | 56 |
| | | | | | 3 | 340 | 288 | 218 | 268 | 180 |
| | | | | | 4 | 52 | 59 | 16 | 40 | 56 |
| | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | only posteriors | 0.36 | 0.65 | 0.31 | 0 | 169 | 78 | 72 | 78 | 105 |
| | | | | | 1 | 96 | 185 | 55 | 108 | 151 |
| | | | | | 2 | 82 | 54 | 163 | 102 | 54 |
| | | | | | 3 | 210 | 107 | 291 | 504 | 182 |
| | | | | | 4 | 46 | 27 | 16 | 45 | 89 |

Table S2 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | | |
|-------|----------------|----------|---------|---------|------------------|-----|-----|-----|------|------|----|
| | | | | | 0 | 1 | 2 | 3 | 4 | | |
| MLP-1 | w/o posteriors | 0.37 | 0.69 | 0.34 | 0 | 41 | 47 | 0 | 465 | 1 | |
| | | | | | 1 | 23 | 81 | 0 | 549 | 0 | |
| | | | | | 2 | 51 | 46 | 0 | 383 | 0 | |
| | | | | | 3 | 156 | 101 | 0 | 1105 | 1 | |
| | | | | | 4 | 20 | 14 | 0 | 196 | 0 | |
| | | | | | | 0 | 1 | 2 | 3 | 4 | |
| | | | | | | 0 | 29 | 85 | 0 | 440 | 0 |
| | | | | | | 1 | 15 | 148 | 0 | 490 | 0 |
| | | | | | | 2 | 37 | 75 | 0 | 368 | 0 |
| | | | | | | 3 | 99 | 191 | 0 | 1073 | 0 |
| | | | | | | 4 | 15 | 26 | 0 | 189 | 0 |
| | | | | | | 0 | 0 | 28 | 0 | 526 | 0 |
| | | | | | | 1 | 0 | 56 | 0 | 597 | 0 |
| | | | | | | 2 | 0 | 21 | 0 | 459 | 0 |
| | | | | | | 3 | 0 | 45 | 0 | 1318 | 0 |
| | | | | | 4 | 0 | 17 | 0 | 213 | 0 | |
| MLP-3 | w/o posteriors | 0.36 | 0.68 | 0.33 | 0 | 77 | 89 | 2 | 359 | 6 | |
| | | | | | 1 | 41 | 169 | 9 | 402 | 9 | |
| | | | | | 2 | 63 | 99 | 2 | 304 | 2 | |
| | | | | | 3 | 211 | 216 | 6 | 887 | 19 | |
| | | | | | 4 | 29 | 28 | 1 | 169 | 1 | |
| | | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | | | | | | 0 | 91 | 108 | 2 | 332 | 0 |
| | | | | | | 1 | 54 | 200 | 2 | 372 | 2 |
| | | | | | | 2 | 50 | 88 | 19 | 313 | 0 |
| | | | | | | 3 | 148 | 192 | 14 | 984 | 1 |
| | | | | | | 4 | 29 | 50 | 2 | 147 | 0 |
| | | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | | | | | | 0 | 130 | 81 | 12 | 310 | 0 |
| | | | | | | 1 | 69 | 159 | 12 | 390 | 0 |
| | | | | | | 2 | 55 | 42 | 30 | 343 | 0 |
| | | | | | 3 | 134 | 93 | 38 | 1074 | 0 | |
| | | | | | 4 | 39 | 35 | 0 | 154 | 0 | |
| MLP-7 | w/o posteriors | 0.34 | 0.66 | 0.3 | 0 | 94 | 75 | 0 | 332 | 1 | |
| | | | | | 1 | 37 | 142 | 0 | 412 | 4 | |
| | | | | | 2 | 88 | 74 | 0 | 293 | 0 | |
| | | | | | 3 | 317 | 175 | 0 | 798 | 4 | |
| | | | | | 4 | 40 | 22 | 0 | 161 | 0 | |
| | | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | | | | | | 0 | 74 | 122 | 19 | 278 | 9 |
| | | | | | | 1 | 46 | 258 | 6 | 284 | 1 |
| | | | | | | 2 | 48 | 80 | 52 | 275 | 0 |
| | | | | | | 3 | 158 | 163 | 87 | 870 | 16 |
| | | | | | | 4 | 32 | 59 | 1 | 128 | 3 |
| | | | | | | 0 | 0 | 1 | 2 | 3 | 4 |
| | | | | | | 0 | 74 | 70 | 3 | 355 | 0 |
| | | | | | | 1 | 43 | 160 | 0 | 392 | 0 |
| | | | | | | 2 | 26 | 35 | 0 | 394 | 0 |
| | | | | | 3 | 56 | 54 | 1 | 1183 | 0 | |
| | | | | | 4 | 12 | 27 | 0 | 184 | 0 | |

Table S2 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | |
|-------|-----------------|----------|---------|---------|------------------|-----|-----|-----|-----|-----|
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| RFC-1 | w/o posteriors | 0.29 | 0.62 | 0.27 | 0 | 127 | 149 | 41 | 227 | 10 |
| | | | | | 1 | 119 | 220 | 53 | 236 | 25 |
| | | | | | 2 | 113 | 123 | 35 | 195 | 14 |
| | | | | | 3 | 374 | 290 | 96 | 543 | 60 |
| | | | | | 4 | 53 | 55 | 10 | 100 | 12 |
| | w/ posteriors | 0.3 | 0.63 | 0.28 | 0 | 126 | 145 | 31 | 245 | 7 |
| | | | | | 1 | 116 | 209 | 51 | 261 | 16 |
| | | | | | 2 | 108 | 112 | 32 | 213 | 15 |
| | | | | | 3 | 364 | 282 | 81 | 592 | 44 |
| | | | | | 4 | 52 | 54 | 11 | 98 | 15 |
| | only posteriors | 0.19 | 0.57 | 0.23 | 0 | 313 | 98 | 41 | 74 | 28 |
| | | | | | 1 | 331 | 119 | 65 | 85 | 53 |
| | | | | | 2 | 291 | 62 | 24 | 71 | 32 |
| | | | | | 3 | 791 | 244 | 89 | 172 | 67 |
| | | | | | 4 | 120 | 43 | 10 | 46 | 11 |
| RFC-3 | w/o posteriors | 0.33 | 0.66 | 0.3 | 0 | 156 | 154 | 43 | 158 | 22 |
| | | | | | 1 | 73 | 269 | 35 | 224 | 29 |
| | | | | | 2 | 89 | 126 | 58 | 185 | 12 |
| | | | | | 3 | 304 | 327 | 110 | 554 | 44 |
| | | | | | 4 | 48 | 82 | 7 | 74 | 17 |
| | w/ posteriors | 0.44 | 0.74 | 0.44 | 0 | 126 | 133 | 50 | 140 | 84 |
| | | | | | 1 | 72 | 394 | 33 | 86 | 45 |
| | | | | | 2 | 61 | 92 | 86 | 214 | 17 |
| | | | | | 3 | 169 | 212 | 146 | 735 | 77 |
| | | | | | 4 | 37 | 55 | 17 | 52 | 67 |
| | only posteriors | 0.41 | 0.71 | 0.4 | 0 | 140 | 127 | 63 | 88 | 115 |
| | | | | | 1 | 90 | 351 | 52 | 47 | 90 |
| | | | | | 2 | 67 | 89 | 129 | 147 | 38 |
| | | | | | 3 | 179 | 200 | 242 | 600 | 118 |
| | | | | | 4 | 48 | 38 | 19 | 39 | 84 |
| RFC-7 | w/o posteriors | 0.35 | 0.67 | 0.33 | 0 | 131 | 134 | 13 | 214 | 10 |
| | | | | | 1 | 58 | 228 | 8 | 288 | 13 |
| | | | | | 2 | 85 | 95 | 27 | 243 | 5 |
| | | | | | 3 | 305 | 250 | 46 | 666 | 27 |
| | | | | | 4 | 55 | 56 | 1 | 101 | 10 |
| | w/ posteriors | 0.48 | 0.77 | 0.5 | 0 | 116 | 156 | 18 | 148 | 64 |
| | | | | | 1 | 56 | 402 | 17 | 95 | 25 |
| | | | | | 2 | 50 | 89 | 67 | 232 | 17 |
| | | | | | 3 | 128 | 186 | 91 | 820 | 69 |
| | | | | | 4 | 33 | 59 | 5 | 64 | 62 |
| | only posteriors | 0.46 | 0.77 | 0.49 | 0 | 107 | 143 | 38 | 125 | 89 |
| | | | | | 1 | 60 | 382 | 26 | 73 | 54 |
| | | | | | 2 | 42 | 91 | 90 | 209 | 23 |
| | | | | | 3 | 116 | 168 | 160 | 756 | 94 |
| | | | | | 4 | 28 | 46 | 6 | 56 | 87 |

Table S2 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | |
|-----------------|----------------|----------|---------|---------|------------------|-----|-----|-----|-----|-----|
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| SVC-1 | w/o posteriors | 0.28 | 0.69 | 0.35 | 0 | 179 | 102 | 7 | 251 | 15 |
| | | | | | 1 | 174 | 138 | 23 | 295 | 23 |
| | | | | | 2 | 177 | 76 | 6 | 212 | 9 |
| | | | | | 3 | 505 | 203 | 18 | 600 | 37 |
| | | | | | 4 | 66 | 38 | 10 | 106 | 10 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | w/ posteriors | 0.28 | 0.69 | 0.35 | 0 | 175 | 98 | 20 | 238 | 23 |
| | | | | | 1 | 187 | 138 | 14 | 274 | 40 |
| | | | | | 2 | 176 | 74 | 6 | 205 | 19 |
| | | | | | 3 | 499 | 198 | 23 | 582 | 61 |
| | | | | | 4 | 68 | 39 | 6 | 105 | 12 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| only posteriors | 0.14 | 0.69 | 0.35 | 0 | 314 | 76 | 0 | 0 | 164 | |
| | | | | 1 | 308 | 55 | 0 | 0 | 290 | |
| | | | | 2 | 292 | 53 | 0 | 0 | 135 | |
| | | | | 3 | 798 | 168 | 0 | 0 | 397 | |
| | | | | 4 | 114 | 36 | 0 | 0 | 80 | |
| | 0 | 1 | 2 | 3 | 4 | | | | | |
| SVC-3 | w/o posteriors | 0.28 | 0.69 | 0.35 | 0 | 148 | 125 | 78 | 144 | 38 |
| | | | | | 1 | 96 | 212 | 62 | 194 | 66 |
| | | | | | 2 | 135 | 117 | 49 | 137 | 32 |
| | | | | | 3 | 384 | 297 | 127 | 448 | 83 |
| | | | | | 4 | 44 | 53 | 27 | 73 | 31 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | w/ posteriors | 0.31 | 0.71 | 0.38 | 0 | 200 | 103 | 54 | 110 | 66 |
| | | | | | 1 | 123 | 207 | 33 | 176 | 91 |
| | | | | | 2 | 104 | 92 | 102 | 123 | 49 |
| | | | | | 3 | 317 | 243 | 175 | 443 | 161 |
| | | | | | 4 | 58 | 52 | 23 | 55 | 40 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| only posteriors | 0.35 | 0.72 | 0.42 | 0 | 192 | 45 | 80 | 125 | 91 | |
| | | | | 1 | 112 | 88 | 60 | 209 | 161 | |
| | | | | 2 | 99 | 31 | 144 | 145 | 51 | |
| | | | | 3 | 237 | 56 | 267 | 632 | 147 | |
| | | | | 4 | 58 | 21 | 17 | 72 | 60 | |
| | 0 | 1 | 2 | 3 | 4 | | | | | |
| SVC-7 | w/o posteriors | 0.27 | 0.68 | 0.34 | 0 | 156 | 95 | 45 | 149 | 57 |
| | | | | | 1 | 111 | 187 | 50 | 187 | 60 |
| | | | | | 2 | 161 | 93 | 47 | 124 | 30 |
| | | | | | 3 | 428 | 264 | 105 | 411 | 86 |
| | | | | | 4 | 60 | 47 | 23 | 64 | 29 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | w/ posteriors | 0.3 | 0.71 | 0.39 | 0 | 176 | 112 | 39 | 100 | 75 |
| | | | | | 1 | 112 | 202 | 22 | 148 | 111 |
| | | | | | 2 | 103 | 86 | 97 | 106 | 63 |
| | | | | | 3 | 280 | 246 | 165 | 392 | 211 |
| | | | | | 4 | 62 | 53 | 11 | 55 | 42 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| only posteriors | 0.36 | 0.75 | 0.45 | 0 | 151 | 102 | 71 | 78 | 100 | |
| | | | | 1 | 83 | 195 | 54 | 131 | 132 | |
| | | | | 2 | 78 | 51 | 158 | 111 | 57 | |
| | | | | 3 | 189 | 129 | 287 | 503 | 186 | |
| | | | | 4 | 37 | 35 | 14 | 52 | 85 | |

Table S2 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | |
|---------|-----------------|----------|---------|---------|------------------|-----|-----|------|------|----|
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| RNN-30 | w/o posteriors | 0.4 | 0.69 | 0.35 | 0 | 5 | 53 | 0 | 440 | 0 |
| | | | | | 1 | 12 | 77 | 0 | 530 | 0 |
| | | | | | 2 | 3 | 50 | 0 | 395 | 0 |
| | | | | | 3 | 4 | 114 | 0 | 1122 | 0 |
| | | | | | 4 | 1 | 17 | 0 | 177 | 0 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | w/ posteriors | 0.36 | 0.67 | 0.31 | 0 | 50 | 93 | 0 | 355 | 0 |
| | | | | | 1 | 11 | 177 | 0 | 431 | 0 |
| | | | | | 2 | 68 | 75 | 0 | 305 | 0 |
| | | | | | 3 | 200 | 195 | 0 | 840 | 5 |
| | | | | | 4 | 28 | 33 | 0 | 131 | 3 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | only posteriors | 0.41 | 0.69 | 0.36 | 0 | 0 | 0 | 0 | 498 | 0 |
| | | | | | 1 | 0 | 0 | 0 | 619 | 0 |
| | | | | | 2 | 0 | 0 | 0 | 448 | 0 |
| 3 | | | | | 0 | 0 | 0 | 1240 | 0 | |
| 4 | | | | | 0 | 0 | 0 | 195 | 0 | |
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| RNN-91 | w/o posteriors | 0.35 | 0.67 | 0.31 | 0 | 35 | 87 | 0 | 397 | 15 |
| | | | | | 1 | 14 | 173 | 0 | 434 | 8 |
| | | | | | 2 | 86 | 66 | 0 | 311 | 2 |
| | | | | | 3 | 197 | 171 | 0 | 857 | 59 |
| | | | | | 4 | 14 | 29 | 0 | 156 | 13 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | w/ posteriors | 0.36 | 0.68 | 0.32 | 0 | 38 | 85 | 0 | 403 | 8 |
| | | | | | 1 | 19 | 172 | 1 | 435 | 2 |
| | | | | | 2 | 60 | 64 | 0 | 340 | 1 |
| | | | | | 3 | 163 | 181 | 0 | 894 | 46 |
| | | | | | 4 | 14 | 24 | 0 | 164 | 10 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | only posteriors | 0.42 | 0.7 | 0.35 | 0 | 5 | 22 | 0 | 507 | 0 |
| | | | | | 1 | 1 | 52 | 0 | 576 | 0 |
| | | | | | 2 | 3 | 10 | 0 | 452 | 0 |
| 3 | | | | | 3 | 24 | 0 | 1257 | 0 | |
| 4 | | | | | 0 | 5 | 0 | 207 | 0 | |
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| RNN-182 | w/o posteriors | 0.36 | 0.67 | 0.32 | 0 | 43 | 42 | 0 | 451 | 0 |
| | | | | | 1 | 36 | 74 | 0 | 518 | 1 |
| | | | | | 2 | 33 | 48 | 0 | 385 | 1 |
| | | | | | 3 | 154 | 120 | 0 | 1035 | 0 |
| | | | | | 4 | 23 | 17 | 0 | 182 | 0 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | w/ posteriors | 0.39 | 0.67 | 0.33 | 0 | 35 | 54 | 3 | 444 | 0 |
| | | | | | 1 | 17 | 114 | 8 | 489 | 1 |
| | | | | | 2 | 32 | 53 | 0 | 382 | 0 |
| | | | | | 3 | 111 | 124 | 0 | 1074 | 0 |
| | | | | | 4 | 17 | 16 | 0 | 189 | 0 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | only posteriors | 0.42 | 0.69 | 0.35 | 0 | 0 | 22 | 0 | 514 | 0 |
| | | | | | 1 | 0 | 53 | 0 | 576 | 0 |
| | | | | | 2 | 0 | 10 | 0 | 457 | 0 |
| 3 | | | | | 0 | 25 | 0 | 1284 | 0 | |
| 4 | | | | | 0 | 3 | 0 | 219 | 0 | |

Table S2 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | |
|----------|-----------------|----------|---------|---------|------------------|-----|-----|------|------|----|
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| LSTM-30 | w/o posteriors | 0.33 | 0.67 | 0.3 | 0 | 59 | 75 | 0 | 361 | 3 |
| | | | | | 1 | 55 | 136 | 0 | 426 | 2 |
| | | | | | 2 | 82 | 69 | 0 | 296 | 1 |
| | | | | | 3 | 257 | 184 | 0 | 780 | 19 |
| | | | | | 4 | 30 | 32 | 0 | 131 | 2 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | | 0 | 50 | 84 | 0 | 362 | 2 | | | |
| | w/ posteriors | 0.36 | 0.67 | 0.32 | 1 | 39 | 154 | 0 | 424 | 2 |
| | | | | | 2 | 69 | 62 | 0 | 317 | 0 |
| | | | | | 3 | 211 | 162 | 0 | 861 | 6 |
| | | | | | 4 | 28 | 32 | 0 | 134 | 1 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | | 0 | 0 | 4 | 0 | 494 | 0 | | | |
| | only posteriors | 0.42 | 0.69 | 0.37 | 1 | 0 | 31 | 0 | 588 | 0 |
| | | | | | 2 | 0 | 1 | 0 | 447 | 0 |
| 3 | | | | | 0 | 10 | 0 | 1230 | 0 | |
| 4 | | | | | 0 | 1 | 0 | 194 | 0 | |
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| LSTM-91 | w/o posteriors | 0.33 | 0.68 | 0.32 | 0 | 50 | 67 | 0 | 415 | 2 |
| | | | | | 1 | 38 | 126 | 0 | 459 | 6 |
| | | | | | 2 | 71 | 52 | 0 | 341 | 1 |
| | | | | | 3 | 242 | 171 | 0 | 868 | 3 |
| | | | | | 4 | 29 | 27 | 0 | 156 | 0 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | | 0 | 62 | 80 | 0 | 389 | 3 | | | |
| | w/ posteriors | 0.33 | 0.67 | 0.32 | 1 | 51 | 174 | 0 | 400 | 4 |
| | | | | | 2 | 85 | 67 | 0 | 312 | 1 |
| | | | | | 3 | 265 | 217 | 0 | 790 | 12 |
| | | | | | 4 | 28 | 27 | 0 | 156 | 1 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | | 0 | 0 | 5 | 0 | 529 | 0 | | | |
| | only posteriors | 0.41 | 0.69 | 0.35 | 1 | 0 | 9 | 0 | 620 | 0 |
| | | | | | 2 | 0 | 0 | 0 | 465 | 0 |
| 3 | | | | | 0 | 2 | 0 | 1282 | 0 | |
| 4 | | | | | 0 | 0 | 0 | 212 | 0 | |
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| LSTM-182 | w/o posteriors | 0.35 | 0.65 | 0.3 | 0 | 50 | 80 | 0 | 399 | 7 |
| | | | | | 1 | 23 | 149 | 3 | 443 | 11 |
| | | | | | 2 | 46 | 70 | 0 | 347 | 4 |
| | | | | | 3 | 177 | 197 | 0 | 905 | 30 |
| | | | | | 4 | 27 | 26 | 1 | 163 | 5 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | | 0 | 50 | 19 | 0 | 467 | 0 | | | |
| | w/ posteriors | 0.36 | 0.68 | 0.33 | 1 | 43 | 59 | 0 | 527 | 0 |
| | | | | | 2 | 36 | 26 | 0 | 405 | 0 |
| | | | | | 3 | 182 | 90 | 0 | 1037 | 0 |
| | | | | | 4 | 28 | 6 | 0 | 188 | 0 |
| | | | | | | 0 | 1 | 2 | 3 | 4 |
| | | 0 | 0 | 22 | 0 | 514 | 0 | | | |
| | only posteriors | 0.42 | 0.69 | 0.37 | 1 | 0 | 51 | 0 | 578 | 0 |
| | | | | | 2 | 0 | 12 | 0 | 455 | 0 |
| 3 | | | | | 0 | 19 | 0 | 1290 | 0 | |
| 4 | | | | | 0 | 8 | 0 | 214 | 0 | |
| | | | | | 0 | 1 | 2 | 3 | 4 | |

Table S2 continued from previous page

| Model | Input Features | Accuracy | AUC-ROC | AUC-PRC | Confusion Matrix | | | | | |
|-----------------|----------------|----------|---------|---------|------------------|-----|-----|------|-----|----|
| | | | | | 0 | 1 | 2 | 3 | 4 | |
| GRU-30 | w/o posteriors | 0.34 | 0.67 | 0.31 | 0 | 54 | 92 | 0 | 349 | 3 |
| | | | | | 1 | 32 | 156 | 0 | 428 | 3 |
| | | | | | 2 | 70 | 79 | 0 | 297 | 2 |
| | | | | | 3 | 211 | 213 | 0 | 793 | 23 |
| | | | | | 4 | 29 | 39 | 0 | 123 | 4 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | w/ posteriors | 0.34 | 0.67 | 0.31 | 0 | 44 | 93 | 4 | 350 | 7 |
| | | | | | 1 | 18 | 175 | 1 | 418 | 7 |
| | | | | | 2 | 74 | 69 | 0 | 300 | 5 |
| | | | | | 3 | 201 | 187 | 1 | 810 | 41 |
| | | | | | 4 | 29 | 37 | 0 | 124 | 5 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| only posteriors | 0.42 | 0.69 | 0.36 | 0 | 0 | 22 | 0 | 476 | 0 | |
| | | | | 1 | 0 | 59 | 0 | 560 | 0 | |
| | | | | 2 | 0 | 13 | 0 | 434 | 1 | |
| | | | | 3 | 0 | 29 | 0 | 1211 | 0 | |
| | | | | 4 | 0 | 8 | 0 | 187 | 0 | |
| | 0 | 1 | 2 | 3 | 4 | | | | | |
| GRU-91 | w/o posteriors | 0.33 | 0.67 | 0.32 | 0 | 74 | 63 | 0 | 396 | 1 |
| | | | | | 1 | 60 | 107 | 0 | 459 | 3 |
| | | | | | 2 | 87 | 54 | 0 | 324 | 0 |
| | | | | | 3 | 279 | 152 | 0 | 851 | 2 |
| | | | | | 4 | 31 | 23 | 0 | 158 | 0 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | w/ posteriors | 0.34 | 0.67 | 0.32 | 0 | 56 | 73 | 0 | 399 | 6 |
| | | | | | 1 | 35 | 184 | 0 | 408 | 2 |
| | | | | | 2 | 75 | 55 | 0 | 330 | 5 |
| | | | | | 3 | 253 | 182 | 0 | 819 | 30 |
| | | | | | 4 | 29 | 26 | 0 | 152 | 5 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| only posteriors | 0.41 | 0.69 | 0.35 | 0 | 6 | 1 | 0 | 527 | 0 | |
| | | | | 1 | 9 | 2 | 0 | 618 | 0 | |
| | | | | 2 | 5 | 0 | 0 | 460 | 0 | |
| | | | | 3 | 8 | 1 | 0 | 1275 | 0 | |
| | | | | 4 | 1 | 0 | 0 | 211 | 0 | |
| | 0 | 1 | 2 | 3 | 4 | | | | | |
| GRU-182 | w/o posteriors | 0.33 | 0.65 | 0.29 | 0 | 57 | 70 | 0 | 406 | 3 |
| | | | | | 1 | 40 | 138 | 0 | 451 | 0 |
| | | | | | 2 | 77 | 60 | 0 | 326 | 4 |
| | | | | | 3 | 243 | 174 | 0 | 856 | 36 |
| | | | | | 4 | 24 | 25 | 0 | 172 | 1 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| | w/ posteriors | 0.36 | 0.67 | 0.33 | 0 | 56 | 36 | 0 | 444 | 0 |
| | | | | | 1 | 50 | 96 | 0 | 483 | 0 |
| | | | | | 2 | 41 | 42 | 0 | 384 | 0 |
| | | | | | 3 | 211 | 117 | 0 | 975 | 6 |
| | | | | | 4 | 28 | 8 | 0 | 186 | 0 |
| | | 0 | 1 | 2 | 3 | 4 | | | | |
| only posteriors | 0.41 | 0.68 | 0.35 | 0 | 0 | 0 | 0 | 536 | 0 | |
| | | | | 1 | 0 | 0 | 0 | 629 | 0 | |
| | | | | 2 | 0 | 0 | 0 | 467 | 0 | |
| | | | | 3 | 0 | 0 | 0 | 1309 | 0 | |
| | | | | 4 | 0 | 0 | 0 | 222 | 0 | |