**Supplementary Material (S5)**

***Table S5:*** *Evaluating performance for default vs altered model parameter settings (AN vs BN)*

|  |  |  |  |
| --- | --- | --- | --- |
| maxdepth | learnrate | penalty.par.val | Accuracy |
| 2 | 0 | lambda.min | 0.635 (0.0475) |
| 2 | 0 | lambda.1se | 0.645 (0.0494) |
| 2 | 0.01 | lambda.min | 0.652 (0.0455) |
| 2 | 0.01 | lambda.1se | 0.634 (0.0605) |
| 2 | 0.1 | lambda.min | 0.628 (0.0442) |
| 2 | 0.1 | lambda.1se | 0.615 (0.0493) |
| 3 | 0 | lambda.min | 0.632 (0.0625) |
| 3 | 0 | lambda.1se | 0.622 (0.0668) |
| 3 | 0.01 | lambda.min | 0.647 (0.0661) |
| **3** | **0.01** | **lambda.1se** | **0.658 (0.0826)** |
| 3 | 0.1 | lambda.min | 0.611 (0.0461) |
| 3 | 0.1 | lambda.1se | 0.602 (0.0579) |
| 4 | 0 | lambda.min | 0.652 (0.0518) |
| 4 | 0 | lambda.1se | 0.641 (0.0460) |
| 4 | 0.01 | lambda.min | 0.637 (0.0579) |
| 4 | 0.01 | lambda.1se | 0.637 (0.0481) |
| 4 | 0.1 | lambda.min | 0.647 (0.0530) |
| 4 | 0.1 | lambda.1se | 0.598 (0.0563) |

As shown above, the default model that we report and interpret in the manuscript also happens to be the best fitting model when comparing different configurations of maximum depth, learn rate, and penalty parameter value.