**Data1: gse10810**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Regularize** | **Classifier** | **Feature Num.** | **AUC** | **ACC** | **Sen.** | **Spe.** |
| Elastic net (alpha=0.5) | None | 132 | 0.990.02 | 0.990.02 | 0.980.05 | 1.00.0 |
| KNN(k=5) | 6 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Random forest(100) | 7 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Naïve bayse | 4 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Linear SVM | 9 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Rbf SVM | 6 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| MCP | None | 1 | 0.930.06 | 0.920.06 | 0.910.1 | 0.960.09 |
| KNN(k=5) | 5 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Random forest(100) | 2 | 0.960.04 | 0.950.04 | 0.940.07 | 0.980.05 |
| Naïve bayse | 5 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Linear SVM | 16 | 0.990.02 | 0.980.02 | 0.970.04 | 1.00.0 |
| Rbf SVM | 10 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| SCAD | None | 13 | 0.980.03 | 0.970.04 | 0.960.06 | 1.00.0 |
| KNN(k=5) | 4 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Random forest(100) | 3 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Naïve bayse | 3 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Linear SVM | 5 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Rbf SVM | 3 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Adaptive lasso | None | 11 | 0.980.04 | 0.970.05 | 0.950.08 | 1.00.0 |
| KNN(k=5) | 7 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Random forest(100) | 8 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Naïve bayse | 3 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Linear SVM | 10 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |
| Rbf SVM | 3 | 1.00.0 | 1.00.0 | 1.00.0 | 1.00.0 |

**Data2: gse15**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Regularize** | **Classifier** | **Feature Num.** | **AUC** | **ACC** | **Sen.** | **Spe.** |
| Elastic net (alpha=0.5) | None | 35 | 0.870.07 | 0.870.07 | 0.870.08 | 0.860.13 |
| KNN(k=5) | 13 | 0.930.13 | 0.930.06 | 0.970.06 | 0.900.12 |
| Random forest(100) | 3 | 0.880.07 | 0.880.07 | 0.850.11 | 0.900.09 |
| Naïve bayse | 16 | 0.910.07 | 0.910.07 | 0.900.12 | 0.920.08 |
| Linear SVM | 5 | 0.900.07 | 0.900.07 | 0.910.09 | 0.880.11 |
| Rbf SVM | 12 | 0.920.05 | 0.920.05 | 0.950.08 | 0.900.08 |
| MCP | None | 5 | 0.840.07 | 0.840.07 | 0.860.10 | 0.820.11 |
| KNN(k=5) | 7 | 0.930.06 | 0.930.06 | 0.940.08 | 0.930.07 |
| Random forest(100) | 14 | 0.940.06 | 0.940.06 | 0.920.10 | 0.960.06 |
| Naïve bayse | 9 | 0.970.04 | 0.970.04 | 0.950.07 | 0.980.05 |
| Linear SVM | 8 | 0.920.05 | 0.920.05 | 0.930.07 | 0.920.08 |
| Rbf SVM | 12 | 0.970.04 | 0.970.04 | 0.950.06 | 0.970.05 |
| SCAD | None | 23 | 0.860.07 | 0.860.07 | 0.880.10 | 0.830.12 |
| KNN(k=5) | 11 | 0.980.04 | 0.980.04 | 1.00.0 | 0.950.08 |
| Random forest(100) | 5 | 0.970.05 | 0.970.05 | 0.940.08 | 0.990.04 |
| Naïve bayse | 18 | 0.970.05 | 0.970.05 | 0.930.11 | 0.990.12 |
| Linear SVM | 12 | 0.960.05 | 0.960.05 | 0.970.05 | 0.940.07 |
| Rbf SVM | 11 | 0.990.01 | 0.990.01 | 0.990.01 | 0.980.03 |
| Adaptive lasso | None | 23 | 0.850.07 | 0.850.07 | 0.860.10 | 0.850.12 |
| KNN(k=5) | 13 | 0.980.04 | 0.980.04 | 1.00.0 | 0.940.07 |
| Random forest(100) | 13 | 0.960.04 | 0.960.04 | 0.950.07 | 0.970.05 |
| Naïve bayse | 10 | 0.980.04 | 0.980.04 | 0.950.07 | 1.00.0 |
| Linear SVM | 12 | 0.960.05 | 0.960.05 | 0.980.03 | 0.920.08 |
| Rbf SVM | 13 | 0.990.02 | 0.990.02 | 0.990.02 | 0.960.05 |