|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | XGBoost | | CATBoost | | LightGBM | |
| Execution Time | Accuracy Score | Execution Time | Accuracy Score | Execution Time | Accuracy Score |
| Iris | 0.1689 | 0.9778 | 1.273 | 0.9778 | 0.0332 | 0.9556 |
| Iris 2 | 0.1025 | 0.9778 | 1.2824 | 0.9778 | 0.0709 | 0.9778 |
| Iris 3 | 0.1171 | 1.0 | 1.4551 | 1.0 | 0.0874 | 1.0 |
| Iris 4 | 0.1988 | 1.0 | 1.4974 | 1.0 | 0.0948 | 1.0 |
| Iris 5 | 0.1009 | 1.0 | 1.8761 | 1.0 | 0.1072 | 1.0 |
| Wine | 0.0945 | 0.9444 | 2.0248 | 0.963 | 0.143 | 0.963 |
| Wine 2 | 0.0994 | 1.0 | 2.2807 | 1.0 | 0.1807 | 0.9907 |
| Wine 3 | 0.0931 | 1.0 | 2.6252 | 1.0 | 0.2211 | 1.0 |
| Wine 4 | 0.1005 | 1.0 | 2.6082 | 1.0 | 0.3381 | 1.0 |
| Wine 5 | 0.0975 | 1.0 | 4.7004 | 1.0 | 0.3032 | 1.0 |

Ass you can see, the CATBoost takes significantly longer to finish execution while the dataset grows.

You can also notice that when there are leaking of the testing data into the training ( because we increased the dataset by having more and more similar entries), all the models approaches 1.0 accuracy rather quickly. LightGBM seems to have a bit more resistance to the leaking, but it also gets overwhelmed quite quickly.