

Performance Comparison: device3 - Original Features  
(TPOT vs. ExtraTrees highlights AutoML impact)

| Model             | F1 Score | Training Time |
|-------------------|----------|---------------|
| Bagging           | 0.7699   | 52.22s        |
| Stacking          | 0.7696   | 36.41s        |
| Voting            | 0.7658   | 7.06s         |
| ExtraTrees        | 0.7690   | 3.84s         |
| Blending          | 0.7625   | 7.08s         |
| TPOT (ExtraTrees) | 0.7700   | 559.48s       |

F1 Score Comparison: TPOT (0.7700) vs ExtraTrees (0.7690)  
Difference: +0.0010 (AutoML hyperparameter optimization impact)

device3 Comprehensive Comparison: Original vs BigFeat Features  
Positive F1 Diff (BigFeat - Original) indicates feature engineering improvement  
Positive F1 Diff (TPOT - ExtraTrees) indicates AutoML improvement over baseline

| Model             | Original F1 Score | BigFeat F1 Score | F1 Diff (BigFeat - Original) | Original Training Time | BigFeat Training Time | Training Time Ratio (BigFeat/Original) | F1 Diff (TPOT - ExtraTrees) |
|-------------------|-------------------|------------------|------------------------------|------------------------|-----------------------|--|-----------------------------|
| Bagging           | 0.7699            | 0.7694           | -0.0005                      | 52.22s                 | 127.56s               | 2.44x                                  |                             |
| Stacking          | 0.7696            | 0.7695           | -0.0001                      | 36.41s                 | 62.58s                | 1.72x                                  |                             |
| Voting            | 0.7658            | 0.7657           | -0.0000                      | 7.06s                  | 12.40s                | 1.76x                                  |                             |
| ExtraTrees        | 0.7690            | 0.7705           | +0.0015                      | 3.84s                  | 5.34s                 | 1.39x                                  |                             |
| Blending          | 0.7625            | 0.7621           | -0.0005                      | 7.08s                  | 12.52s                | 1.77x                                  |                             |
| TPOT (ExtraTrees) | 0.7700            | 0.7703           | +0.0003                      | 559.48s                | 571.50s               | 1.02x                                  | +0.0010                     |