CatBoost Classifier

Features Importances

1. num_products (27.497860)
2. age (20.251571)
3. balance (9.859890)
4. active (7.236069)
5. country_G (6.195595)
6. tenure (4.580660)
7. salary (4.080289)
8. gender (3.816531)
9. points (3.589042)
10. satisfaction (2.848566)
11. credit_score (2.67483)
12. card_G (1.527465)
13. credit_card (1.416423)
14. country_S (1.217813)
15. country_F (1.062875)
16. card_P (0.834047)
17. card_S (0.726457)
18. card_D (0.583866)

Hyperparameters

iterations: 545
learning_rate: 0.013560631530876574
depth: 6
l2_leaf_reg: 2.548492629309027
random_strength: 0.3660344916841721
bagging_temperature: 0.2722303737601264
verbose: 0
random_state: 42

Performance Metrics

Mean recall across 5-fold stratified cross-validation on train set: 0.647239
Recall standard deviation across 5-folds of cross-validated train set: 0.022852
Test set recall: 0.67402

Mean f1-score across 5-fold stratified cross-validation on train set: 0.62387
F1-score standard deviation across 5-folds of cross-validated train set: 0.018232
Test set f1-score: 0.632911