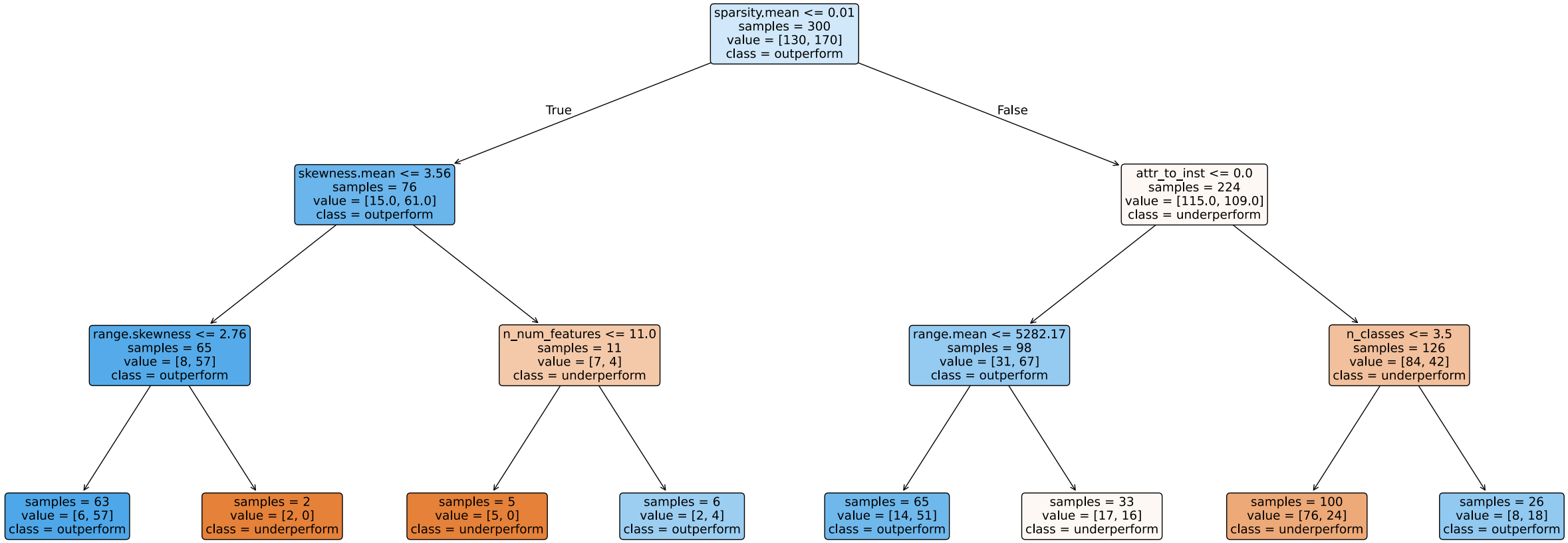

Post-hoc Meta-Analysis: A three-layer decision tree illustrating *dataset characteristics* where ModernNCA either underperforms or outperforms XGBoost across 300 datasets. Each non-leaf node presents four key details: (1) the decision criterion (e.g., "sparsity.mean<=0.01" assesses if the average feature sparsity is ≤0.01), (2) the number of datasets reaching the node ("samples"), (3) the counts of datasets where ModernNCA underperforms or outperforms ("value"), and (4) the majority class at the node (either "underperform" or "outperform"). Left branches correspond to a "True" outcome for the decision criterion, while right branches indicate "False."