








| Workflow  | Rank  | HGSC  | CCOC  | ENOC  | LGSC  | MUC  |
|---|---|---|---|---|---|--|
| <div>All</div> | <div>All</div> | <div>All</div> | <div>All</div> | <div>All</div> | <div>All</div> | <div>All</div> |
| sequential | 1 | 0.842 | 0.839 | 0.715 | 0.884 | 0.884 |
| smote_rf | 2 | 0.856 | 0.849 | 0.641 | 0.33 | 0.73 |
| smote_xgb | 3 | 0.866 | 0.83 | 0.632 | 0.569 | 0.719 |
| hybrid_xgb | 4 | 0.854 | 0.842 | 0.638 | 0.543 | 0.715 |
| two_step | 5 | 0.833 | 0.796 | 0.632 | 0.758 | 0.818 |
| up_svm | 6 | 0.822 | 0.81 | 0.637 | 0.437 | 0.739 |
| up_xgb | 7 | 0.85 | 0.83 | 0.625 | 0.481 | 0.716 |
| up_rf | 8 | 0.861 | 0.837 | 0.629 | 0.308 | 0.722 |
| smote_svm | 9 | 0.829 | 0.764 | 0.612 | 0.512 | 0.733 |
| hybrid_svm | 10 | 0.82 | 0.802 | 0.625 | 0.472 | 0.734 |
| hybrid_rf | 11 | 0.844 | 0.797 | 0.607 | 0.44 | 0.719 |
| none_svm | 12 | 0.808 | 0.789 | 0.653 | 0.407 | 0.752 |
| smote_mr | 13 | 0.803 | 0.838 | 0.606 | 0.404 | 0.665 |
| hybrid_mr | 14 | 0.784 | 0.821 | 0.586 | 0.408 | 0.679 |
| up_mr | 15 | 0.777 | 0.802 | 0.558 | 0.389 | 0.638 |
| down_mr | 16 | 0.663 | 0.833 | 0.529 | 0.273 | 0.675 |
| none_rf | 17 | 0.768 | 0.839 | 0.463 | 0 | 0.7 |
| down_svm | 18 | 0.602 | 0.807 | 0.432 | 0.271 | 0.682 |
| down_rf | 19 | 0.663 | 0.82 | 0.395 | 0.249 | 0.55 |
| down_xgb | 20 | 0.501 | 0.628 | 0.308 | 0.171 | 0.469 |
| none_mr | 21 | 0.034 | 0.019 | 0.039 | 0 | 0 |
| none_xgb | 22 | 0.026 | 0.062 | 0 | 0 | 0 |