**PREDIABETES/DIABETES PREDICTION**

Version 3 Without Threshold Optimization

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Set Results | | | | | |
| Classifier | Precision | Recall | Macro F1 Score | Weighted F1 Score | Accuracy |
| Logistic regression | 0.81 | 0.84 | 0.52 | 0.80 | 0.84 |
| XGBOOST | **0.87** | **0.90** | **0.62** | **0.87** | **0.90** |
| Random Forest | 0.86 | 0.86 | 0.53 | 0.82 | 0.86 |

All reports are weighted average values with a support of 86310 instances except for the macro F1 score

Version 3 With Threshold Optimization

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Optimized Thresholds Test Set Results | | | | | |
| Classifier | Precision | Recall | Macro F1 Score | Weighted F1 Score | Accuracy |
| Logistic regression | 0.80 | 0.78 | 0.58 | 0.79 | 0.78 |
| XGBOOST | **0.87** | **0.89** | **0.69** | **0.88** | **0.89** |
| Random Forest | 0.81 | 0.81 | 0.56 | 0.80 | 0.81 |

All reports are weighted average values with a support of 86310 instances except for the macro F1 score

**STROKE PREDICTION**

Version 3 Without Threshold Optimization

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Set Results | | | | | |
| Classifier | Precision | Recall | Macro F1 Score | Weighted F1 Score | Accuracy |
| XGBoost | 0.93 | **0.96** | **0.51** | **0.94** | **0.96** |
| Random Forest | **0.95** | 0.96 | 0.49 | 0.94 | 0.96 |

All reports are weighted average values with a support of 86310 instances except for the macro F1 score

Version 3 With Threshold Optimization

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Optimized Thresholds Test Set Results | | | | | |
| Classifier | Precision | Recall | Macro F1 Score | Weighted F1 Score | Accuracy |
| XGBoost | **0.95** | **0.83** | **0.57** | **0.88** | **0.83** |
| Random Forest | 0.95 | 0.83 | 0.56 | 0.88 | 0.83 |

All reports are weighted average values with a support of 86310 instances except for the macro F1 score

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Stroke Classification Report Test Set Results | | | | | | | |
| Classifier |  | Initial Results | | | Threshold Optimized Results | | |
|  | Categories | Precision | Recall | Macro F1 Score | Precision | Recall | Macro F1 Score |
| XGBOOST | 0 (Stroke) | **0.34** | 0.03 | 0.05 | 0.14 | **0.61** | **0.23** |
| 1 (No Stroke) | 0.96 | **1.00** | **0.98** | **0.98** | 0.84 | 0.91 |
| Random Forest | 0 (Stroke) | **0.64** | 0.00 | 0.00 | 0.14 | **0.60** | **0.22** |
| 1 (No Stroke) | 0.96 | **1.00** | **0.98** | **0.98** | 0.84 | 0.90 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Set Results | | | | | |
| Classifier | Precision | Recall | Macro F1 Score | Weighted F1 Score | Accuracy |
| XGBOOST | **0.78** | **0.78** | **0.77** | **0.78** | **0.78** |
| Random Forest | 0.77 | 0.77 | 0.76 | 0.77 | 0.77 |