|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **4 Classes with 15 Attributes** | | | | | | | |
| **Machine Learning Model** | **Accuracy Testing** | **Accuracy Training** | **Distribution** | **F-1 “Poor”** | **F-1 “Average”** | **F-1 “Good”** | **F-1 “Successful”** |
| MultiClass Classification Logistic Regression | 57.54% | 57.11% | * Poor: 1147 * Average: 5318 * Good: 15369 * Successful: 5373 | 0% | 5% | 72% | 27% |
| MultiClass Classification Logistic Regression –  **Naive Random Oversampling** | 47.13% (Balanced) | 46.80% (Balanced) | * Poor: 11527 * Average: 11527 * Good: 11527 * Successful: 11527 | 23% | 30% | 38% | 43% |
| MultiClass Classification Logistic Regression –  **SMOTE Oversampling** | 46.23% (Balanced) | 45.56% (Balanced) | * Poor: 11527 * Average: 11527 * Good: 11527 * Successful: 11527 | 26% | 31% | 47% | 41% |
| MultiClass Classification Logistic Regression –  **Cluster Centroids Undersampling** | 34.67% (Balanced) | 35.28% (Balanced) | * Poor: 860 * Average: 860 * Good: 860 * Successful: 860 | 14% | 23% | 5% | 23% |
| MultiClass Classification Logistic Regression –  **SMOTEEN, Combination of Over- and Under-Sampling** | 46.55% (Balanced) | 46.68% (Balanced) | * Poor: 6672 * Average: 4262 * Good: 2127   Successful: 5123 | 23% | 31% | 37% | 43% |
| Balanced Random Forest | 47.14% (Balanced) | 67.24% (Balanced) | * Poor: 1147 * Average: 5318 * Good: 15369 * Successful: 5373 | 24% | 33% | 43% | 43% |
| Easy Ensemble AdaBoost Classifier | 47.68% (Balanced) | 48.26% (Balanced) | * Poor: 4469 * Average: 11847 * Good: 24008 * Successful: 9533 | 23% | 33% | 41% | 44% |