|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Datasets** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.709402 | 0.552477 | 0.536667 | 0.536188 |
| Weighted | 0.717949 | 0.621429 | 0.555195 | 0.546032 |
| Pressure | 0.733813 | 0.690711 | 0.652751 | 0.6622 |
| Ask | 0.696035 | 0.473708 | 0.483679 | 0.471291 |

Table 1 RF Pain without SMOTENC

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Datasets** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.423077 | 0.39879 | 0.388964 | 0.391975 |
| Weighted | 0.333333 | 0.330159 | 0.330159 | 0.329885 |
| Pressure | 0.561151 | 0.499906 | 0.482774 | 0.479719 |
| Ask | 0.559471 | 0.382987 | 0.3419 | 0.336909 |

Table 2 RF DiseaseCount without SMOTENC

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Datasets** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.514957 | 0.416226 | 0.377881 | 0.377375 |
| Weighted | 0.615385 | 0.415344 | 0.441414 | 0.42037 |
| Pressure | 0.496403 | 0.534444 | 0.384615 | 0.395995 |
| Ask | 0.528634 | 0.349699 | 0.363579 | 0.356326 |

Table 3 RF ADR Count without SMOTENC

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.587607 | 0.592206 | 0.583772 | 0.576133 |
| Weighted | 0.794872 | 0.763393 | 0.691558 | 0.711111 |
| Pressure | 0.726619 | 0.700376 | 0.707532 | 0.703258 |
| Ask | 0.819383 | 0.501885 | 0.500356 | 0.473377 |

Table 4 Hypertensive Disease RF with Featuer Filtering and without SMOTENC

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.677603 | 0.701309 | 0.668407 | 0.660118 |
| Weighted | 0.851852 | 0.857143 | 0.882353 | 0.85 |
| Pressure | 0.741294 | 0.740859 | 0.739424 | 0.739845 |
| Ask | 0.700565 | 0.711313 | 0.69165 | 0.689782 |

*Table 5 Pain RF With Feature Filtering and SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimators** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.587607 | 0.592206 | 0.583772 | 0.576133 |
| Weighted | 0.794872 | 0.763393 | 0.691558 | 0.711111 |
| Pressure | 0.726619 | 0.700376 | 0.707532 | 0.703258 |
| Ask | 0.819383 | 0.501885 | 0.500356 | 0.473377 |

*Table 6 Pain RF with Feature Filtering and Without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.560878 | 0.562123 | 0.561012 | 0.558965 |
| Weighted | 0.6875 | 0.737363 | 0.6875 | 0.670179 |
| Pressure | 0.743902 | 0.753535 | 0.742674 | 0.74078 |
| AskAPatient | 0.619178 | 0.6234 | 0.623864 | 0.619132 |

*Table 7 Hypertensive disease SVM with SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.59188 | 0.599346 | 0.5875 | 0.577272 |
| Weighted | 0.769231 | 0.878378 | 0.590909 | 0.584615 |
| Pressure | 0.697842 | 0.693343 | 0.587111 | 0.573744 |
| AskAPatient | 0.837004 | 0.418502 | 0.5 | 0.455635 |

*Table 8 Hypertensive disease SVM without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.745726 | 0.539855 | 0.508527 | 0.471888 |
| Weighted | 0.74359 | 0.868421 | 0.545455 | 0.507576 |
| Pressure | 0.748201 | 0.865385 | 0.602273 | 0.592034 |
| AskAPatient | 0.76652 | 0.386667 | 0.494318 | 0.433915 |

*Table 9 Pain SVM without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.436102 | 0.435908 | 0.43593 | 0.43584 |
| Weighted | 0.522727 | 0.742424 | 0.531746 | 0.509794 |
| Pressure | 0.608696 | 0.680497 | 0.618276 | 0.604497 |
| AskAPatient | 0.515766 | 0.509676 | 0.515725 | 0.495939 |

*Table 10 ADR Count with SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.431624 | 0.347332 | 0.35475 | 0.334189 |
| Weighted | 0.410256 | 0.571895 | 0.398413 | 0.328704 |
| Pressure | 0.532374 | 0.674731 | 0.404633 | 0.360942 |
| AskAPatient | 0.665198 | 0.413203 | 0.351358 | 0.308581 |

*Table 11 ADR Count without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.58547 | 0.591346 | 0.58125 | 0.571671 |
| Weighted | 0.820513 | 0.9 | 0.681818 | 0.711111 |
| Pressure | 0.741007 | 0.753885 | 0.649611 | 0.656319 |
| AskAPatient | 0.828194 | 0.544283 | 0.505619 | 0.477175 |

*Table 12 Hypertensive disease SVM with Feature Filtering without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.590818 | 0.593961 | 0.590996 | 0.587638 |
| Weighted | 0.645833 | 0.706388 | 0.645833 | 0.617799 |
| Pressure | 0.737805 | 0.758133 | 0.736055 | 0.731567 |
| AskAPatient | 0.591781 | 0.588914 | 0.589318 | 0.589004 |

*Table 13 Hypertensive disease SVM with Feature Filtering*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.614836 | 0.613653 | 0.612231 | 0.612088 |
| Weighted | 0.537037 | 0.722222 | 0.632353 | 0.516995 |
| Pressure | 0.706468 | 0.756909 | 0.717875 | 0.697821 |
| AskAPatient | 0.587571 | 0.597529 | 0.594078 | 0.585666 |

*Table 14 Pain SVM with Feature Filtering and SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.536926 | 0.539222 | 0.537155 | 0.530853 |
| Weighted | 0.604167 | 0.60582 | 0.604167 | 0.602614 |
| Pressure | 0.591463 | 0.594377 | 0.592369 | 0.589617 |
| AskAPatient | 0.520548 | 0.516347 | 0.516364 | 0.516351 |

*Table 15 Hypertensive Disease NB*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.523504 | 0.522391 | 0.517544 | 0.492884 |
| Weighted | 0.487179 | 0.458556 | 0.449675 | 0.442857 |
| Pressure | 0.568345 | 0.522665 | 0.522665 | 0.522665 |
| AskAPatient | 0.837004 | 0.418502 | 0.5 | 0.455635 |

*Table 16 Hypertensive Disease NB without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.760684 | 0.380342 | 0.5 | 0.432039 |
| Weighted | 0.717949 | 0.621429 | 0.555195 | 0.546032 |
| Blood | 0.647482 | 0.509409 | 0.504187 | 0.472874 |
| AskAPatient | 0.77533 | 0.387665 | 0.5 | 0.436725 |

*Table 17 Pain NB Without Smote*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.553495 | 0.553395 | 0.553513 | 0.5532 |
| Weighted | 0.703704 | 0.720833 | 0.733824 | 0.702069 |
| Pressure | 0.626866 | 0.626733 | 0.62711 | 0.626533 |
| AskAPatient | 0.5 | 0.535696 | 0.520443 | 0.451768 |

*Table 18 Pain NB*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.371648 | 0.369142 | 0.369659 | 0.369044 |
| Weighted | 0.568966 | 0.544067 | 0.553872 | 0.539088 |
| Blood | 0.512821 | 0.513312 | 0.516115 | 0.494191 |
| AskAPatient | 0.435967 | 0.421373 | 0.435923 | 0.412535 |

*Table 19 Disease Count NB*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.57265 | 0.371117 | 0.343385 | 0.271581 |
| Weighted | 0.538462 | 0.342857 | 0.360606 | 0.350697 |
| Blood | 0.546763 | 0.367236 | 0.359568 | 0.287233 |
| AskAPatient | 0.506608 | 0.173454 | 0.316804 | 0.224172 |

*Table 20 NB Count without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.520958 | 0.527749 | 0.521434 | 0.492315 |
| Weighted | 0.520833 | 0.52277 | 0.520833 | 0.510421 |
| Blood | 0.579268 | 0.581915 | 0.580173 | 0.577367 |
| AskAPatient | 0.528767 | 0.560603 | 0.549848 | 0.515227 |

*Table 21 Hypertensive Disease NB with Feature Filtering*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.534188 | 0.565179 | 0.524013 | 0.439921 |
| Weighted | 0.769231 | 0.760714 | 0.618506 | 0.628571 |
| Blood | 0.597122 | 0.562113 | 0.564332 | 0.562697 |
| AskAPatient | 0.837004 | 0.418502 | 0.5 | 0.455635 |

*Table 22 Hypertensive Disease NB with Feature Filtering without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.562054 | 0.560617 | 0.554822 | 0.547433 |
| Weighted | 0.722222 | 0.746844 | 0.758824 | 0.721362 |
| Blood | 0.616915 | 0.61735 | 0.617676 | 0.616764 |
| AskAPatient | 0.508475 | 0.538858 | 0.526307 | 0.474509 |

*Table 23 Pain NB with Feature Filtering*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.760684 | 0.380342 | 0.5 | 0.432039 |
| Weighted | 0.717949 | 0.358974 | 0.5 | 0.41791 |
| Blood | 0.654676 | 0.533028 | 0.51555 | 0.489908 |
| AskAPatient | 0.77533 | 0.387665 | 0.5 | 0.436725 |

*Table 24 Pain NB with Feature Filtering without SMOTENC*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimators** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.335125 | 0.334382 | 0.33591 | 0.333261 |
| Weighted | 0.66129 | 0.648049 | 0.668111 | 0.648689 |
| Pressure | 0.594982 | 0.586339 | 0.597276 | 0.585986 |
| Ask | 0.828877 | 0.836913 | 0.827197 | 0.827277 |

*Table 25 Drug Predictions Random Forest with Filtering*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimators** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.392334 | 0.391084 | 0.393215 | 0.385144 |
| Weighted | 0.596774 | 0.575284 | 0.597724 | 0.582342 |
| Pressure | 0.477679 | 0.47844 | 0.478799 | 0.476218 |
| Ask | 0.828877 | 0.836913 | 0.827197 | 0.827277 |

*Table 26 Drug Family predictions random Forest with feature filtering*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.443548 | 0.436758 | 0.445805 | 0.432164 |
| Weighted | 0.387097 | 0.414805 | 0.390319 | 0.390853 |
| Pressure | 0.512545 | 0.50988 | 0.515292 | 0.510708 |
| AskAPatient | 0.754011 | 0.761474 | 0.755729 | 0.752994 |

*Table 27 Drug Predictions with SVM*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.317204 | 0.324079 | 0.318835 | 0.308868 |
| Weighted | 0.419355 | 0.490196 | 0.413183 | 0.413526 |
| Blood | 0.476703 | 0.51323 | 0.481905 | 0.474449 |
| AskAPatient | 0.716578 | 0.784646 | 0.721712 | 0.701521 |

*Table 28 Drug prediction with SVM and Feature Filtering*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dataset** | **Accuracy** | **Precision** | **Recall** | **FScore** |
| Complete | 0.305556 | 0.364391 | 0.310105 | 0.273662 |
| Weighted | 0.451613 | 0.454023 | 0.454578 | 0.414229 |
| Blood | 0.365591 | 0.389339 | 0.354946 | 0.333318 |
| AskAPatient | 0.721925 | 0.757815 | 0.725803 | 0.714067 |

*Table 29 Drug Predictions with Naive Bayes*