**Table 1 - Example of cross table**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Variable B | |
|  |  | 0 (not) | 1 (yes) |
| Variable A | 0 (not) | *a* | *b* |
| 1 (yes) | *c* | *d* |

**Table 2 - Example of confusion matrix**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Real | |
|  |  | 0 (not) | 1 (yes) |
| Prediction | 0 (not) | TP | FN |
| 1 (yes) | FP | TP |

**Table 3 - Ordinal variables of the Oswestry 2.0 disability and quality of life questionnaires SF-12 most strongly correlated with low back pain**

|  |  |  |
| --- | --- | --- |
| **Ordinal** | **Correlation coefficient** | **P-value** |
| SF12\_M1\_1\_v1 | 0.43 | 6·63E-05 |
| Oswestry1\_v1 | 0·38 | 5·46E-04 |
| Oswestry2\_v1 | 0·37 | 6·07E-04 |
| SF12\_M1\_8\_v1 | 0·35 | 1·25E-03 |
| Oswestry9\_v1 | 0·32 | 3·33E-03 |
| Oswestry4\_v1 | 0·31 | 4·13E-03 |
| Sum\_Oswestry | 0·31 | 4·78E-03 |
| Oswestry10\_v1 | 0·31 | 5·08E-03 |
| SF12\_M1\_10\_v1 | -0·30 | 5·92E-03 |
| SF12\_M1\_12\_v1 | -0·36 | 1·07E-03 |
| SF12\_M1\_11\_v1 | -0·37 | 7·40E-04 |
| SF12\_M1\_9\_v1 | -0·38 | 5·77E-04 |
| SF12\_M1\_2\_v1 | -0·40 | 1·97E-04 |
| SF12\_M1\_5\_v1 | -0·46 | 1·53E-05 |
| SF12\_M1\_6\_v1 | -0·47 | 1·07E-05 |
| SF12\_M1\_3\_v1 | -0·48 | 9·29E-06 |
| SF12\_M1\_7\_v1 | -0·49 | 4·68E-06 |
| SF12\_M1\_4\_v1 | -0·51 | 1·59E-06 |

**Table 4 - Ordinal variables from the RMDQ, Oswestry and SF-12 questionnaires most strongly correlated with leg pain**

|  |  |  |
| --- | --- | --- |
| **Ordinal** | **Correlation coefficient** | **P-value** |
| Oswestry1\_v1 | 0·30 | 8·79E-04 |
| SF12\_M1\_3\_v1 | -0·30 | 8·77E-04 |

**Table 5 - Ordinal variables from the SF-12 Quality of life questionnaire most strongly correlated with back pain**

|  |  |  |
| --- | --- | --- |
| **Ordinal** | **Correlation coefficient** | **P-value** |
| SF12\_M1\_2\_v1 | -0·34 | 1·55E-04 |
| SF12\_M1\_5\_v1 | -0·32 | 3·84E-04 |
| SF12\_M1\_8\_v1 | 0·35 | 7·57E-05 |
| SF12\_M1\_9\_v1 | -0·34 | 1·25E-04 |
| SF12\_M1\_10\_v1 | -0·32 | 3·03E-04 |
| SF12\_M1\_11\_v1 | -0·35 | 8·81E-05 |
| SF12\_M1\_12\_v1 | -0·32 | 3·05E-04 |

**Table 6 - Results of the performance metrics of the tested machine learning models**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Accuracy | *Precision* | *Recall* | *F1-Score* |
| Logistic regression | 0.78 | 0.82 | 0.73 | 0.73 |
| Neural network | 0.71 | 0.83 | 0.81 | 0.82 |
| Random Forest | 0.78 | 0.77 | 0.74 | 0.74 |
| Support Vector Machine | 0.79 | 0.88 | 0.69 | 0.72 |
| XBoost Classifier | 0.81 | 0.81 | 0.80 | 0.79 |