**Dataset**

We have used a Parkinson’s Speech Pattern Dataset to showcase our work. The dataset we have used has 756 data points, with each datapoint having 754 attributes. The dataset has 564 Parkinson’s positive data points and 192 Parkinson’s negative data points.

Although the dataset is relatively small, the relatively high amount of attributes although good for training our models made our algorithm susceptible to overfitting, we have taken care of that by using Principal Component analysis to reduce the number of attributes without losing training ability. With this we have been able to train the traditional machine learning algorithms and especially the neural network algorithms to a very high level of precision and accuracy. However, we are certain that with the inclusion of more data point we would be able to improve our models further.

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| tqwt\_TKEO\_std\_dec\_32 | 0.01987384966738003 | 26.0620838755717 |
| tqwt\_TKEO\_mean\_dec\_33 | 0.3104628329189008 | 24.9442663610479 |
| tqwt\_TKEO\_std\_dec\_33 | 0.07507677689667193 | 24.283816068288253 |
| det\_TKEO\_mean\_3\_coef | 1.4434955464066024 | 20.874872200923843 |
| det\_LT\_entropy\_shannon\_7\_coef | -4.780452134423335 | -21.4150979727166 |
| tqwt\_medianValue\_dec\_29 | -0.31596805061181005 | -21.623643949849406 |
| tqwt\_skewnessValue\_dec\_24 | -1.690083153162617 | -22.684339987002808 |
| tqwt\_entropy\_shannon\_dec\_33 | -2.023628408215805 | -25.06135227711703 |
| tqwt\_entropy\_shannon\_dec\_32 | -2.120342043665047 | -25.672811274750888 |

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| **Attribute Name** | **Skew Value** | **Skew Value** |
| tqwt\_TKEO\_mean\_dec\_32 | 0.19846778387365632 | 26.48258509147365 |