

PREDICTIVE ANALYTICS IN HEALTHCARE



OBJECTIVE

Identification of parameters that can help us with early detection of Parkinson's disease

OUTCOME

REDUCE INSURANCE COSTS

STUDY GROUP:

Number of patients with Parkinson's disease: 5880
Age Ranges: 36 to 100 Years

PARAMETERS USED

- Age
- Test Time
- Motor UPDRS
- Total UPDRS
- NHR
- HNR
- RPDA
- DFA
- PPE
- JITTER_ABSOLUTE
- JITTER_RAP
- JITTER_PPQ5
- JITTER_DDP
- JITTER_PERCENTAGE
- SHIMMER
- SHIMMER_DBA
- SHIMMER_APQ3
- SHIMMER_APQ5
- SHIMMER_APQ11
- SHIMMER_DDA

TOP PARAMETERS

- AGE
- TOTAL UPDRS
- DFA

Algorithm Findings

- 99% Accuracy that age is starting point for the optimal decision
- 72% : UPDRS > 26.91
- 75% DFA > 0.68

Total Algorithms Used: 26

- Stacking algorithms
- Boosting Algorithms
- Predictive Algorithms
- Clustering Algorithms
- Feature selection Algorithms

FINDINGS

	PARAMETER	OPTIMAL VALUE
1	AGE	> 55 YEARS
2	TOTAL UPDRS	> 26.91
3	DFA	> 0.68
4	SHIMMER APQ5	< 0.0207



REFERENCES

Case study Available upon request.