iCARE PD

Presents...

A Study of Parkinson's Disease and Technology

42

PEOPLE EXAMINED

During our study, the survey pool consisted of 22 patients with Parkinson's Disease and 20 healthy subjects for control.

1

SHOT VIDEO FRAMES

The video frames used to assess patients were Single Shot Multibox Detectors that were trained to detect the hands of patients in real time in order to assess their condition

4

FEATURES TO TEST

In order to use the tracking technology our researchers had to consider several single features in order to properly conduct their tests. The characteristics of bradykinesia (slowness of movement in laymen's terms) they examined were: mean amplitude, SD of amplitude, speed of movement, and fatigue

3

FEATURES

Three classifiers were used in order to properly detect and assess our subjects. The classifiers in question were: logistic regression, Gaussian Naive-Byers, and Random Forest. All of which are all AI algorithm programs.

12

VIDEOS TO ANALYZE

In our external validation, 12 videos were used. 6 of which featured Parkinson's Disease patients, and 6 of which were regular patients. This helps us better refine our algorithms.

2

DIFFERENCES IN TASKS

Our systems could detect differences in motor performance, particularly between unilateral and bilateral tasks, which were then compared between the two focus groups.

Our Conclusion?

The concept of AI technology accurately evaluating symptoms of Parkinson's Disease is a feasible future! Remote assessment and diagnosis are possible, and with the adaptation of telehealth that just means more patients are able to get the care they need!

Check out our study!

Remote Evaluation of Parkinson's Disease Using a Conventional Webcam and Artificial Intelligence

Mariana H. G. Monje, Sergio Domínguez, Javier Vera-Olmos, Angelo Antonini, Tiago A. Mestre, Norberto Malpica and Álvaro Sánchez-Ferro

iCARE-PD