ABSTRACT

Parkinsons disease is one of degenerated disease that difficult to be diagnosis. Until now, there is a lot of Parkinson sufferers that who are late being handled because of the difficulity to detect the early symtoms suffered by Parkinsons sufferers. This Parkinsons disease emerge because there is a damage in the subtantia neigra cell.

Therefore, this research was conducted by processing and classifying the recorded data using the Vertical Ground Reaction Force (VGRF) from the Physiobank database. By classifying records data signal VGRF in total of 16 sensor which is will be mounted on the patients feet when walking. This research methods using Discrete Cosine Transform (DCT) for the feature extraction and Learning Vector Quantization (LVQ) for the classification. The computing process of this research uses the Python programs.

The writters managed to get the best results with the same 2 values of 91.41% with classification parameters, that is Learn Rate of 0.1 Epoch by 50 Codebooks for 5 with a computing time of 91.59 seconds and for the second value, Learn Rate of 0.1 Epoch by 50 Codebooks for 7 with a computing time of 47.77 seconds. With the presence of this system the outcome is expected to provide early treatment for Parkinsons sufferers and reduce the number of Parkinsons sufferers because due to late of diagnosis can cause the symptoms sufferes develop even more dangerous.

Keywords *: Parkinsons, Vertical ground Reaction Force, Discrete Cosine Transform, Learning Vector Quantization*