

ABSTRACT

Technology in the medical world plays an important role as a provider of additional facilities that facilitate the process of providing treatment for someone who has physical, intellectual, mental and sensory limitations. A person who experiences these limitations is known as a disability. Disability groups need more services in doing various things. Disorders that cause these limitations can be overcome with a therapeutic process. The seriousness of therapy can be carried out if there are expert recommendations related to the disorder being experienced. The practice of physiotherapy so far has only been carried out based on the doctor's subjective view without any proper method to measure its accuracy. So there are no experts and applications that can identify abnormalities in human body movements.

This research is focused on children with disabilities who have impairments. In this study, the process of collecting gait data was carried out in several patients who had abnormalities, this process was carried out by recording the patient's walking activities using a camera and measuring the values of several gait factors which were part of the parameters used. Measuring the value of these parameters is done by utilizing the recording of the respondent's walking activity. The gait factors used as parameters in this study were speed, number of steps, *Right Step Length*, left step length, stride length, right foot angle, and left foot angle.

The data generated in the measurement will be processed using an *Artificial Neural Network* and *Decision Tree* algorithm. In the process, data *training* will be carried out as an introduction to the *Artificial Neural Network* and *Decision Tree* algorithm system, after which *testing* will be carried out using new data to find out the prediction of the respondent's abnormalities.

Keywords: *Artificial Neural Network*, *Decision Tree*, Disability