

ABSTRACT

Technology in the medical field plays a crucial role as a supplementary provider of facilities that ease the process of medical care for individuals experiencing physical, intellectual, mental, and sensory limitations. Individuals with these limitations are known as disabilities. Disability groups require enhanced services in various aspects, and the disorders causing these limitations can be addressed through therapeutic processes. The seriousness of therapy can be carried out when there is expert recommendation related to the experienced abnormality. Physiotherapy practices have traditionally been based on subjective medical perspectives without a precise method to measure their accuracy. Thus, there is currently no expert or application capable of identifying abnormalities in human body movements. This research focuses on children with disabilities who have disorders. In this study, the process of collecting gait data was conducted on several patients with disorders. This process involved recording the walking activities of patients using a camera and measuring the values of several gait factors that are part of the parameters used. The measurement of values for these parameters was carried out by utilizing recordings of the respondents' walking activities. The gait factors that serve as parameters in this study are speed, step count, right step length, left step length, stride length, right foot angle, and left foot angle. The data generated from the measurements will be processed using the Artificial Neural Network and Decision Tree algorithms. In the process, data training will be conducted to introduce the Artificial Neural Network and Decision Tree algorithms to the system. Subsequently, testing will be performed using new data to determine predictions regarding the disorders possessed by the respondents.

Keyword: Artificial Neural Network, Decision Tree, Disability, physiotherapy, Gait Analysis