

ABSTRACT

In this age of advanced technology, the security system is getting more sophisticated, but the security hacking system is also getting more sophisticated. In everyday life we always access the door to go out and enter the room. The door security system has been very developed, as well as the security hacking system, manual door security hacking to door hacking with a sophisticated security system can already be done. Therefore, the door security system must continue to be developed. The door security system based on the biometric system is the security technology that is considered the most effective at this time, but now we often encounter news about security hacks in places that already use biometric system technology.

Biometrics are body measurements and calculations related to human characteristics. In the world of information technology, biometrics are as relevant to technology as biometric authentication (or realistic authentication) used in studying computer science as a form of identification and access control. These measurements can also be used to identify individuals in groups who are under surveillance. Using these biometrics, an automatic gate security system based on gait analysis is created, which is a biometric security system that can recognize individuals from their walking characteristics. The process of identifying walking characteristics is also known as pose estimation.

Therefore it is necessary to develop a seamless biometric system that can be used without having to attach additional sensors to the body. By combining the posenet research methods from the posenet-based telehealth research for home rehabilitation, we suggest a posenet-based seamless biometric contactless system. Posenet can read gestures with just a simple camera connected to a laptop. This system works automatically without the need for user awareness. The user only needs to walk under the camera's monitoring, then Posnet will read the movements of the joints in the legs by applying the analysis gate method. The data obtained will then be processed by posenet. Data processing and analysis were carried out using the Linear Predictive Coding (LPC) and k-Nearest Neighbor (k-NN) methods. The LPC method is used to perform feature extraction. LPC generates feature vectors. The k-NN method is used to perform the classification.

Keywords: *Biometric, Gait Analysis, Security, Pose Estimation.*