

ABSTRACT

Development of information technology is always in line with the increasing security to protect data and IT infrastructure that is in it. One of these is the need for the security of a reliable key to detect the unauthorized possession of an access to information technology. It could be the key password, PIN (Personal Identifier Number), or physical characteristics that are unique to a particular personal can be distinguished from the other personal.

Password and PIN is the most basic security methods that have been used for a long time. Often this method can be manipulated and there are gaps crime. Therefore, it is now widely used form of biometric key member of the human body. Members of the human body is often used fingerprints, retinal patterns, and hand lines.

In this thesis used the finger knuckles of the hand as the research object because the object of more extensive measurements. Characteristic extraction method using Principal Component Analysis (PCA) and character classification using Learning Vector Quantization (LVQ). The best parameters of PCA and LVQ are 95 PCs, 500 epochs, 0.0075 learning rate, 60 hidden layers.

Keywords: security, biometrics, finger knuckles, PCA , LVQ