

Abstract

E-Payment is an electronic payment system that uses internet facilities as an intermediary. The rapid development of the era makes the use of machines to replace human roles also increase, one example is vending machines. One of the researches on e-payment system in vending machine introduced smart card payment method to handle the problems in payment system which still uses bank notes and coins. The next research on the same topic introduces a biometric fingerprint payment method to overcome system security problems in previous research. Biometric fingerprint authentication still has some security issues, one of which is the possibility of duplication because it will leave latent print traces on the device. In this research, a palm vein recognition system is built using opencv to process images and CNN algorithm to get authentication results. The dataset used to build the training model is taken by itself with the device built. The dataset consists of 2 classes (R and M), each of which amounts to 100 pieces with different retrieval processes, such as light levels and shooting angles. From the model built, the accuracy obtained is 78% with a recall value of 96.

Keywords: E-Payment, Contactless Authentication, Biometric, Palm Vein, Vending Machine, CNN
