Abstract

A device that has a connection with a communication protocol that is very vulnerable to any device. One attack that attacks a smartlock device is a relay attack. Relay and smartlock devices must be at a distance of less than 50 m so that the data cutting and manipulation process is carried out. In smartlock using wifi, the relay device will cut or manipulate the wifi signal on the smartphone so that the relay device users use the smartlock that uses the wifi. This method can calculate the safety or failure of this device or what is needed to improve security on smartlock devices on wifi. Markov chain performs detection by checking the matrix based on trainning and testing data whose data is obtained on smartlock devices and relay attack devices. The final results of this study indicate that the markov chain method can detect relay attacks on smartlocks on wifi by having detection accuracy of 95.0%, precision 95.0%, recall 100%, false alarm rate of 6.25% and f1 score of 88.88%.

Keywords : Wifi, Smartlock, IoT,* Markov Chain, *Relay Attack