

***Door Security Systems Based Facial Recognition  
Using the method Fisherface***

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***ABSTRACT***

*Crime is one of the classic problems faced big city. One type of crime that is rampant today is theft. Many thieves go home using a duplicate key or use a special way to unlock the door. Therefore we need a tool that is able to anticipate the occurrence of theft, a system that uses a special key. Key that only identical by the owner of the house, one of which is the face. In this final project created a door security system using facial recognition as a key to opening the door. The method used in this tool is the method fisherface. The primary step in the introduction of this face, that face detection, PCA calculation, calculation of FLD. The security system consists of three main parts: a webcam, microcontroller arduino uno, and laptops as database storage. Image of the user's face will be taken by using a webcam. Captured images are stored in the laptop database and matched with the existing database. The results will feed into the microcontroller arduino whether the door is open or locked.*

***Keywords:*** Face Recognition, Fisherface, Arduino Uno