

THE IMPLEMENTATION OF *EIGENFACE* METHOD FOR FACE RECOGNITION ON THE DOOR SAFETY SYSTEM

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ABSTRACT

Manual face recognition is easy for humans, unlike face recognition using machine or computer. We identify by looking at their eyes and faces. So also the same as with a computer. In this research, face recognition will be implemented to open and lock the doors automatically. Applications made consist of the Raspberry Pi as a mini PC with the python programming language. This system is expected to be able to find the position of faces in an image by themselves. The algorithm used is Eigenface or commonly referred to as PCA (Principle Component Analysis). The use of the input image is expected to be more flexible, with an accuracy of up to 90% so that only people in the database can enter the house, while the servo motor is designed to be able to control the position to open and lock the door.

Keywords: *Face Recognition, PCA, Eigenface, Raspberry Pi, Motor Servo*