ABSTRACT

With the development of technology at this time. There are many tools or system

that really help human life. Such as machine learning or machine learning which

is currently helping humans, especially the elderly. There are often cases where the

elderly are easy to forget something, for example forgetting people who are their

family. This can be overcome with the Face Recognition application. Face Recog-

nition is a technology from machine learning that is able to identify or recognize a

person's face..

This final project offers a family member identification system application which

can help the elderly to remember their family members just by pointing the External

camera at the face of the person who wants to be recognized, then the system will

perform the face recognition process and will display the output on the layer along

with notifications to telegram. The system is built using the dlib algorithm. Dlib is

a C++ toolkit containing algorithms for machine learning and software develop-

ment to solve real-world problems..

This application can perform face registration and perform facial checks with reg-

istered data. Can do facial checks even though there are other variables, such as

faces that use glasses, faces that use masks, etc. It can also detect faces that are

directly facing the camera or tilted a few degrees. After testing the face recognition

system, it was found that the system can detect a maximum of 4 faces in 1 frame.

Able to perform recognition with a maximum distance of 1.8 meters from the cam-

era. Get a detection accuracy of 100% at the angle of the face facing the camera.

The system is also capable of facial recognition using glasses and a head covering,

with an accuracy of 100%. And the system is able to recognize if the light lux value

is greater than 0. It is hoped that this application can help the elderly to remember

all their family members.

Keywords: Face Recognition, Machine Learning, Elderly.

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