

ABSTRACT

Biometrics has become a promising technique for personal authentication. This method can be used in terms of identifying people based on various properties, such as face, fingerprints, palms, and sound. Most biometric systems use the image of body properties as input. For example, 2D face recognition system captures facial images of people and then recognizes it. However, in the implementation of face identification there are several problems occurs.

The problem often occurs when the facial image is taken from a person using a hat or something; such as army, police, construction workers, etc. At the time of the face identification process, the object must use the headgear for the purposes of employment, or in other case, when the object is a fugitive in disguise. So for identification, there are some missing parts from facial features. Hence, we need to use the appropriate image processing technique for generating output with high accuracy.

The method used in this thesis is Complete Gabor Fisher Classifier, which is expected to be able to continue recognizing faces, in both normal condition (no caps used) and when object using caps. Performance will be analyzed in this thesis is the face detection accuracy under normal conditions (no cap) and when cap is used. The designed system have identification accuracy level of 97,6% for experiment with 5 people, 73,3% for experiment with 11 people and 57% for experiment with 20 people, with average computational time is 24 seconds.

Keywords: Image, Face detection, Complex Gabor Fisher Classifier, Accuracy

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Dengan segala kerendahan hati, penulis berharap semoga tugas akhir ini dapat bermanfaat bagi pembaca dan penulis khususnya, serta bagi dunia pendidikan pada umumnya.

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