

**UNIVERSITITEKNOLOGI MARA**

**FACE CLASSIFICATION FOR THREE MAJOR  
ETHNIC OF ORANG ASLI USING  
BACKPROPAGATION NEURAL NETWORK**

**NOR INTAN SHAFINIBINTINASARUDDIN**

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## ABSTRACT

In recent years, face recognition has received much attention due to its benefit in many fields (Hossein et al. 2008). For instances, face recognition is widely used in telecommunication, investigation, entertainment, medical area as well as biometric system (Zhao et al, 2003). Importantly, face recognition is essential for historical research particularly in mixed races. In order to recognize people, there is no such robust and particular technique for face recognition. This is because face recognition is very challenging and will apply different techniques to different fields and applications. In this paper, there is a method has been used to recognize faces which is by using Back propagation Neural Network (BPNN). Process of face recognition of Orang Asli faces consists of three steps which are image preprocessing, image extraction and classification. Image preprocessing and image extraction are done by using MATLAB. The image classification prototype is developed by using JAVA programming language which is based on supervised learning algorithm, Backpropagation Neural Network. In the training process, learning rate values is adjusted in order to get better result. After the system training, the testing part for face recognition is conducted. The successful results of the recognition are shown is percentage. This experiment is performed on three major classes of ethnics which are Negrito, Senoi and Proto-Malay. 36 images of each ethnic are captured where each of the ethnic has 12 images respectively.

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