

Universiti Teknologi MARA

**DEVELOPMENT OF HUMAN EXPRESSIONS
PROTOTYPE USING BACK PROPOGATION**

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May His blessing be upon the Prophet Muhammad s.a.w

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ABSTRACT

Human facial expression is one of the most powerful means for people to coordinate conversation and communicate emotions and other mental, social, and physiological cues. Actual application of human facial expressions is expected in educational environments, 3D video conferencing and collaborative workplaces, online shopping and gaming, virtual communities and interactive entertainment. Various techniques are used in developing the system that can recognize human facial expressions and using one of artificial intelligent (AI) such as back propagation neural network (BPNN) may offer better solution in terms of recognition accuracy. The first step applied is determining the expression based on the facial expression by the literature. Once the expression is determined, the prototype system using BPNN and is develop. There are 60 individuals' expression images taken from Cohn - Kanade Coded Facial Expression Database. Those mouth features are crop into six regions and convert to binary to be an input to the BPNN. The BPNN are manage to get average of 74.9% accuracy in recognizing three types of human facial expression which are happiness, sadness and anger.