

Universiti Teknologi MARA

**Driver Drowsiness Detection Using
Back-propagation Neural Network**

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ABSTRACT

Faces as the primary part of human communication have been a research target in a computer vision over a few decades. This project focuses on the development of Back propagation neural network for driver drowsiness detection based on eyes state (open and close). It uses a CCD camera equipped with an active IR illuminator to acquire images of the driver. Then the images sequence will be process offline to determine the drowsiness. This project will provides the confirmation that back propagation is suitable for this type of system. There are two important phases that were focused in this system development. The phases are pre-processing phases and neural network design phase. Every phase has a several sub processes and the network parameter are the predetermine values in the training process. Several suggestions and recommendations are proposed to enhance the detection presence and performance

Keyword: *Artificial Neural Network, Computer Vision, Image processing, Driver drowsiness, Face Recognition.*

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