Universiti Teknologi MARA

Driver Drowsiness Detection Using Back-propagation Neural Network

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Thesis submitted in fulfillment of the requirements for
Bachelor of Science (Hons) Intelligent System
Faculty of Information Technology And
Quantitative Science

April 2006

ACKNOWLEDGEMENT

'In the name of Allah, the Compassionate, the Merciful, praise be to Allah, lord of Universe and peace and Prayers be upon His Final Prophet and Messenger.'

First and foremost, I would like to express my highest gratitude to Allah for giving me the opportunity to complete this thesis in time. If not for His consent, I would not have been able to do this task.

I would also like to express my special thanks to my supervisor, Pn. Marina Binti Yusoff, to my thesis coordinator Assoc. Prof. Pn Zaidah Ibrahim, and my course coordinator, En Mohd Zaki Bin Zakaria, for giving me the encouragement and mostly support throughout the duration of this project. I really appreciated their constant suggestions, guidance and insight throughout this research. The most important things are their ability to encourage and motivate me to do the research within a very limited time.

To my beloved family, especially to my parents, I thank them for giving me their blessings, unconditional love and financial support. With no exception, a million of thanks goes to all my friends whom I shared and discuss expertise and experiences until today, many thanks. Finally, to whom I failed to mention, who directly contributed to this project, I thank you all very much.

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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CHAPTER 3: METHODOLOGY