HUMAN BEHAVIOUR RECOGNITION, IDENTIFICATION, AND COMPUTER INTERACTION

Edited by

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IIUM PRESS

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Published by:
IIUM Press
International Islamic University Malaysia

First Edition, 2011

Cataloguing-in-Publication Data Perpustakaan Negara Malaysia

ISBN: 978-967-418-156-7

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by :
IIUM PRINTING SDN. BHD.
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

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Chapter 22
Automatic Identity Recognition Systems: A Review

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22.1. Introduction

Rapidly changed computer technology and fast growth of communication ways, makes everyday work easy and managed. Technology takes place everywhere, in business, education, market, security...etc. However, communication between human and these technologies become the main concern of many research areas, especially for developing automatic identity recognition systems. However, biometric technologies are among the most important technologies used in this area.

Biometric technology refers to the automatic identity recognition using physical or behavioral traits associated with him/her. Using biometrics, it is possible to establish physiological-based systems that depend on physiological characteristics such as fingerprint, face recognition, DNA... etc, or behavioral-based systems that depend on behavioral characteristics such as gait, voice...etc, or even combining both of them in one system. Therefore, biometrics technologies can be excellent candidates for developing intelligent systems such as speaker identification, facial recognition, signature verification...etc. In addition, biometric technologies are flexible enough to be combined with other tools to produce more secure and easier to use verification systems.

Human from ancient time have used body characteristics such as voice and face in their daily life; from simple basic actions such as recognizing someone to allow him/her enter your house using his/her voice or face, to critical situations such as defining criminal identity from his/her fingerprint, face or any other characteristic.

Automatic identity recognition technology transformed the traditional manual recognition of human characteristics, to automated systems based on one characteristic or even combined more than one. The goal of automatic identity recognition technology, in