

An Anthology of Applied Computer Technologies

Zulkefli Muhammed Yusof
M.M Hafizur Rahman



IIUM PRESS

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

AN ANTHOLOGY OF APPLIED COMPUTER TECHNOLOGIES

Editors

Zulkefli Muhammed Yusof

M.M. Hafizur Rahman



IIUM Press

Published by:

IIUM Press

International Islamic University Malaysia

First Edition, 2011
©IIUM Press, IIUM

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Zulkefli Muhammed Yusof and M.M. Hafizur Rahman:
An Anthology of Applied Computer Technologies

ISBN: 978-967-418-106-2

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

CONTENTS

EDITORIAL NOTE

Zulkefli Bin Muhammed Yusof..... *i*

1. Web And Mobile Based Phrase Dictionary

Normaziah A. Aziz, Noranidah Binti Mohamad, Nur Afifah Binti Ahmad Murad *1*

2. Computerized Observation Of Motion In Badminton Tracking System

Normaziah A. Aziz, M. Amar Odenan, Taufiq M. Khadafi *11*

3. Analyzing Driving Behaviour Using Speech Recognition Through KDE And MLP

Abdul Wahab Bin Abdul Rahman, Norazilah Nuji, Khadijah Adibah Ahmad *21*

4. Driver Identification and Driver's Emotion Verification Using KDE and MLP Neural Networks

Abdul Wahab Bin Abdul Rahman, Norzaliza Md Nor, Asma' Ismail *35*

5. Emotion Speech Recognition Using KDE and MLP Neural Networks

Abdul Wahab Bin Abdul Rahman, Nor Fadilah Basiron, Nor Ashikin Ishak *55*

6. Investigating Computer Forensic Tools And Their Searching Techniques

Normaziah A. Aziz, Aniyath Ali, Mahmoud Abdul Wahab *69*

| | |
|---|-----|
| 7. A Web-Based Approach for the KICT Evaluation System <i>Al-Sakib Khan Pathan, Nurul Nabilah Kamarudin, Hasfaizaidah Hassan, Nadilatul Eliana Ali</i> | 87 |
| 8. Brainwave Study On The Effect Of Music On Perception <i>Abdul Wahab Bin Abdul Rahman, Nur Izrin Roslan, Siti Norhaizum Mohd Hasnan</i> | 95 |
| 9. Brute Force Password Search Using Multithreading and Grid Computing <i>Al-Sakib Khan Pathan, Ahmad Nazmi Fadzal</i> | 113 |
| 10. A Study Using Driving Simulator To Understand Driver's Perception A Priori And Post Priori Of Accidents <i>Abdul Wahab Bin Abdul Rahman, Nor Akmal Harun, Norasyikin Lipoh</i> | 125 |
| 11. Secure Coding in Cross Site Scripting <i>Normaziah A. Aziz, Milly Hafizah Mohd Kanafta, Salmiah Haseng</i> | 143 |
| 12. Pronouncing Dictionary for Minority Languages of Muslim Community <i>Normaziah A. Aziz, Ahmad Hasanul Ishraf Shuib, Mohd Fazlie Awalluddin</i> | 157 |
| 13. The Impact of Transmission Range over Node Density in Vehicular Ad Hoc Network (VANET) with Obstruction of Road Infrastructure <i>Zulkefli Bin Muhammed Yusof, Nur Nazmah Mat Zin</i> | 167 |
| 14. Mobile Data Services in Java 2 Platform Micro Edition (J2ME): MobileOrder <i>Zulkefli Bin Muhammed Yusof, Mohd Asyraf</i> | 177 |

| | |
|--|-----|
| 15. Content Management System Minisite <i>Zulkefli Bin Muhammed Yusof, Ammar Bin Mat Rawi</i> | 189 |
| 16. Classification Based On Basic Emotion <i>Abdul Wahab Abdul Rahman, Husna Mohd Salih, Nurulhidayah Abd. Latif</i> | 199 |
| 17. Basic Emotions Verification and Identification using Gaussian Mixture Model (GMM) Features Extraction <i>Abdul Wahab Abdul Rahman, Siti Norhidayah Saad, Syuwaida N. Zahari</i> | 211 |
| 18. SQL Injection Penetration Testing Tutorial <i>Al-Sakib Khan Pathan, Diallo Abdoulaye Kindy</i> | 225 |
| 19. A Survey of Photonic Switching Network <i>Al-Sakib Khan Pathan, M. M. Hafizur Rahman</i> | 235 |
| 20. An Evaluation of Photonic Switching Network <i>Al-Sakib Khan Pathan, M. M. Hafizur Rahman</i> | 255 |

19. A SURVEY OF PHOTONIC SWITCHING NETWORK

Al-Sakib Khan Pathan, M. M. Hafizur Rahman
Department of Computer Science, Faculty of Information and
Communication Technology, International Islamic University Malaysia,
Malaysia

ABSTRACT

As optical technology advances, there is considerable interest in using optical technology to implement interconnection networks and switches. Although electronic MINs and optical MINs have many similarities, there are some fundamental differences between them. The major problem in optical MINs is the problem of crosstalk in the optical switches. Although the problem can be reduced by using free-space interconnects instead of fiber optics, the crosstalk problem can still be significant due to the alignment to the problem, etc. To avoid the crosstalk problem, traditional routing algorithms and results for electronic MINs are not applicable here. New research is needed to address the issues associated with optical MINs.

19.1 INTRODUCTION

Communications among processors in a parallel computing system are always the main design issue when a parallel system is built or a parallel algorithm is designed. With advances in silicon and Ga-As technologies, processor speed is reached the gigahertz range. Traditional metal-based communication technology used in parallel computing systems is becoming a potential bottleneck. This requires either that significant progress be made in the traditional interconnects or those new interconnect technologies, such as optics, be introduced in parallel computing systems.