

Mohd Murtadha Mohamad

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Faculty of Computer Science and Information System
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MALAYSIA

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Born: August 16, 1977—Johor, Malaysia

Nationality: Malaysian

Current academic position

Senior Lecturer, Faculty of Computer Science and Information System, UTM

Areas of specialisation

Robotics; Artificial Intelligence; Motion Planning; Ubiquitous Positioning; Underwater Acoustic Sensor Network

Education

- 2003 - 2006 PH.D in Electrical, Heriot-Watt, Scotland
- 2001 - 2002 M.Sc in Embedded System Engineering, Heriot-Watt, Scotland
- 1995 - 2000 B.ENG in Computer, UTM Skudai Johor
- 1994 - 1995 SPM, 11 Aggregate, Sekolah Menengah Sains Muar, Johor
- 1990 - 1992 SRP, 5 Aggregate, Maktab Sultan Abu Bakar, Johor
- 1991 - 1992 DARJAH KHAS, 2nd Division, Sekolah Agama Bandar, Johor
- 1984 - 1989 UPSR, 5A, Sekolah Temenggong Abdul Rahman (1), Johor

Grants, honors & awards

- 2012, May-Jul. Erasmus Mundus IDEAS 2012 Scholarship for Staff Mobility at Laboratory of Software Quality, Universiteit Technische Eindhoven, Netherlands.
- 2010, Jan. Principal of The Year 2009, by Institutional Resident Fellow Development
- 2008, May UTM Excellent Service Award 2007, *Anugerah Perkhidmatan Cemerlang Tabun 2007*.
- 2006, Dec. Salary Increment Prize for Member in Service Schemes for Various Qualification Entry Under Education Service Classification

2006, Oct. Student Travel Grant Award on SICE ICASE International Joint Conference 2006

Research

- 2007, Sept - Member of Research Project on Node Protection Against Malicious Accusation Attack
2009, Feb. in Mobile Ad-Hoc Network (MANET), Vot No. 79207, grant value RM 168,000.
- 2007, Dis. - Member of Research Project on Friend-Assisted Secure Autonomus Mobile Ad-Hoc
2009, June Networks, Vot No. 79261, grant value RM 109,300.
- 2007, Dis. - Member of Research Project on Mobile Ad Hoc Network Multi Hop Routing Algo-
2009, June rithm, Vot No. 79262, grant value RM 112,300.
- 2008, Apr. - Member of Research Project on 3D Scene Management to Reduce the Computational
2009, Sept. Cost of an Immersive Driving Simulator System, Vot No. 79282, grant value RM 292,450.
- 2008, Nov. - Member of Research Project on Development of Web-based Repository and Simula-
2010, Apr. tion System to Support Robotics E-Learning, Vot No. 79318, grant value RM 179,300.
- 2008, Nov. - Member of Research Project on : Development of Wireless Hybrid Smart Sensor Net-
2010, Apr. work for Monitoring and Controlling Weather and Soil Factors on E-Agriculture, Vot
No. 79305 /RM 184,300.
- 2010, Mar. - Leader of Research Project on : Basic Study of Optimization Techniques on sampling-
2012, Mar. based Motion Planning Algorithm for Closed Kinematic Chains Manipulator, Vot No.
3F530 RM 44,000.
- 2011, Apr. - Leader of Research Project on : The Mobile Ubiquitous Positioning for Unmovable
2012, Mar. Physical Facility Tracking, Vot No. 02J56 RM 40,000.
- 2011, Oct. - Member of Research Project on: Pilot Deployment of Electronic Monitoring and
2013, Sep. Automation System System for Re-circulating Aquaculture System Using Wireless Em-
bedded Technology, Vot No. 4L604, RM 300,000.
- 2013, Jan. -
2013, Dec. Leader of Research Project on : Intelligent Transport System: The Prototype of Mov-
able Robot Control Unit Based on Brainwave Signal Input, Vot No. 08J05 RM 32,000.

Journals

2013

Mohammad Taghi Kheirabadi and Mohd Murtadha Mohamad, "Greedy Routing in Underwater Acoustic Sensor Networks: A Survey," *International Journal of Distributed Sensor Networks*, vol. 2013, Article ID 701834, 21 pages, 2013. doi:10.1155/2013/701834. (WOS impact factor: 0.727)

Wan Mohd Yaakob Wan Bejuri, Mohd Murtadha Mohamad, Maimunah Sapri, Mohd Shafry Mohd Rahim, Junaid Ahsenali Chaudry, "Performance Evaluation of Spatial Correlation-based Feature Detection and Matching for Automated Wheelchair Navigation System", *International Journal of Intelligent Transportation Systems Research*, ar-

ticle in press, pp. 1 - 11.

2012

Kayhan Zrar Ghafoor, Kamalrulnizam Abu Bakar, Shaharuddin Salleh, Jaime Lloret, and Mohd Murtadha Mohamad, "Fuzzy Logic-Assisted Geographical Routing Over Vehicular Ad Hoc Networks", *International Journal of Innovative Computing, Information and Control*, Vol. 8, No. 6(B), pp. 5095-5120, July 2012, ISSN 1349-4198

Wan Mohd Yaakob Wan Bejuri, Mohd Murtadha Mohamad, Maimunah Sapri, Mohd Adly Rosly, "Performance Evaluation of Mobile U-Navigation based on GPS/WLAN Hybridization", *Journal of Convergence Information Technology*, Vol. 7, No. 12, pp. 235-246, July 2012, doi:10.4156/jcit.vol7.issue12.27

Wan Mohd Yaakob Wan Bejuri, Mohd Murtadha Mohamad, Maimunah Sapri and Mohd Adly Rosly, "Investigation of Color Constancy for Ubiquitous Wireless LAN/Camera Positioning: An Initial Outcome", *International Journal of Advancements In Computing Technology*, Vol. 4, No. 7 pp. 269-280, April 2012, doi:10.4156/ijact.vol4.issue7.30

Wan Mohd Yaakob Wan Bejuri, Mohd Murtadha Mohamad, Maimunah Sapri, Mohd Adly Rosly, "Ubiquitous WLAN/Camera Positioning using Inverse Intensity Chromaticity Space-based Feature Detection and Matching: A Preliminary Result", *Computing Research Repository*

2011

Wan Mohd. Yaakob Wan Bejuri, Mohd. Murtadha Mohamad, Maimunah Sapri, "Ubiquitous Positioning: A Taxonomy for Location Determination on Mobile Navigation System", *Signal and Image Processing : An International Journal*, Vol. 2, No. 1, pp. 24-34, March 2011, ISSN 2229 - 392

2008

Mohd Murtadha Mohamad, "Articulated Robots Motion Planning Using Foraging Ant Strategy", *Journal of Information Technology - Special Issues in Artificial Intelligence*, Vol. 20, No. 4 pp. 163-181, December 2008, ISSN 0128-3790

Proceedings

2013

L. ben Othmane, H. Weffers, R. Ranchal, P. Angin, B. Bhargava, and M. M. Mohamad, "A Case for Societal Digital Security Culture," *Proc. 28th IFIP International Information Security and Privacy Conference (SEC 2013)*, Auckland, New Zealand, July 2013, pp. 391-404

M.T. Kheirabadi, M. Murtadha, "Pressure Routing Protocols in Underwater Acoustic Sensor networks: A survey", *4th International Graduate Conference on Engineering Science & Humanity*, Johor Bahru, Malaysia, April 2013, p.25-29

2012

M. T. Kheirabadi and M. Murtadha, "An Analytical Study on Routing Techniques for Underwater Acoustic Sensor Networks (UWASNs)", *International Conference on Un-*

derwater System Technology: Theory and Applications, Shah Alam, Malaysia, December 2012, p. 6-11

2010

Adil Mohd, Mohd Murtadha Mohamad, Wan Zulkhairi, "Pembangunan Kemahiran Insaniah Melalui Aktiviti Skuba", *NASDEC Persidangan Pembangunan Pelajar Peringkat Kebangsaan 2010*, 21-22 Dis. 2010, Johor Bahru, Malaysia.

Muhammad Danial Ismail, Mohd Murtadha Mohamad, "An Enhancement on Mobile IPv6 : A Review", *ICINC International Conference on Intelligent Network and Computing 2010*, 26 - 28 Nov. 2010, Kuala Lumpur, Malaysia.
ISBN: 978-1-4244-8270-2

Mohd Murtadha Mohamad, Adil Mohd, "Developng Soft Skills Through Scuba Diving Activities", *IUSRCE International University Social Responsibility Conference and Exhibition 2010*, 4-6 Oct. 2010, Kuala Lumpur, Malaysia.

Adil Mohd, Mohd Murtadha Mohamad, Wan Zulkhairi, "Pembangunan Kemahiran Insaniah Melalui Aktiviti Skuba", *NASDEC Persidangan Pembangunan Pelajar Peringkat Kebangsaan 2010*, 21-22 Dis. 2010, Johor Bahru, Malaysia.

2006

Mohd Murtadha Mohamad, Matthew Dunnigan, "Nicholas Taylor, Foraging Ant Motion Planning for Articulated Robots", *SICE-ICASE International Joint Conference 2006*, pp. 4285-4290, 18-21 Oct. 2006, Korea, Bexco, Busan, Korea. ISSN 89-950038-5-5 98560/06

Mohd Murtadha Mohamad, Nicholas K. Taylor, Matthew W. Dunnigan, "Articulated Robot Motion Planning Using Ant Colony Optimisation", *The 3rd International IEEE Conference on Intelligent Systems*, pp. 690-695, September 2006, University of Westminster, UK. ISSN 1-4244-0195-X/06

2005

Mohd M. Mohamad, Matthew W. Dunnigan, Nicholas K. Taylor, "Ant Colony Robot Motion Planning", *EUROCON 2005*, pp. 213-216, 22-24 Nov. Serbia & Montenegro, Belgrade. ISSN 1-4244-0049-X/05

Chapter in Book

2012

L. ben Othmane, H. Weffers, M. M. Mohamad, and M. Wolf, "A Survey of Security and Privacy in Connected Vehicles," chapter in *Wireless Sensor Networks (WSN) For Vehicular and Space Applications: Architecture and Implementation*, Driss Ben Haddou and Ala Al-Fuqaha, Ed. Springer, Norwell, MA, in Press.

Research Monograph

- 2008 Mohd Murtadha Mohamad, "Motion Planning: Foraging Ant Planner for Articulated Robots", 2008, ISBN 978-967-353-637-5

Teaching - Undergraduates

- 2006/07(II) SCK 3003 Senibina Komputer.
2007/08(I) SCJ 1013 Programming Technique 1.
SCE 3103 Computer Organization and Architecture.
2007/08(II) SCJ 1023 Programming Technique 2.
2008/09(I) SCE 1013 Computer Organisation and Architecture.
SCR 1043 Computer Organization and Assembly Language.
2008/09(II) SCJ 2103 Application Development.
2009/10(I) SCJ 1013 Programming Technique 1.
2009/10(II) SCJ 2103 Application Development.
2010/11(I) SCR 1043 Computer Organization and Architecture.
2010/11(II) SCJ 2103 Application Development.
2011/12(I) SCR 2033 Computer Organization and Architecture.

Teaching - Postgraduates

- 2006/07(II) MCC 2313 Advances Computer System & Architecture.
2007/08(I) MCS 0013 Computer Architecture.
2011/12(II) MCC 2313 Advances Computer System & Architecture.
2012/13(I) MCC 2313 Advances Computer System & Architecture.
2013/14(I) MCC 2313 Advances Computer System & Architecture.

Undergraduate Final Year Project Supervision (completed 22)

2012

1. Malek Najib Abdulkarem Omar, *Controlling Electrical Home Devices Using Mobile Phone*
2. Hendra, *Sign Language Recognition Using Kinect for Communication in Hospital Environment.*
3. Abdihakim Ismail Gedi, *Smart Parking Management System Using RFID*
4. Muhammad Nazirul Azim bin Haji Roslim, *Basic Sign Language Translate into Image Using Kinect.*
- 2011 5. Nithi Surachman, *Android Application: Mobile Book Loaning*
- 2010 6. Wan Mohd Nasri Wan Muhamad Saidin, *Penanda Maya Untuk Tujuan Pengajaran dan Pembelajaran.*
7. Mohd Hafiz Mohd Ambar, *Robot Penyelesaian Maze.*
8. Helmi Bin Hassan Basri, *Sistem Kawalan Robot Mudah Alih Secara Inframerah Melalui Paparan Kamera Rakaman Langsung.*
9. Muhamad Nurul Hafiz Bin Razali, *Sistem Pendaftaran Pusat Kesihatan Mahasiswa Menggunakan RFID.*
- 2009 10. Amir Haziq Bin Loh Bojeng, *Robot Pemeta.*
11. Noriana Binti Said, *Sistem Penempahan Asrama Kolej 9 UTM.*
12. Hairunnazri Bin Haron, *Sistem Pemantauan Kelajuan Bas Menggunakan Global Positioning System dan Makluman Berasaskan Sistem Pesanan Ringkas.*
13. Jarrod Teah Kean Wei, *Sistem Penebusan Mata Ganjaran Jusco Melalui SMS.*
14. Lim Wei Pin, *Sistem Perbandingan Harga Produk Komputer Secara Atas Talian.*
15. Mohd Asyraf B. Mohd Arshad, *Sistem Pengurusan Stor Senjata Markas PALAPES UTM.*
16. Mohd Fairus Bin Ramlan, *Sistem Penempahan Kenderaan UTM dan Makluman-Berasaskan Sistem Pesanan Ringkas.*
17. Mohd Hadfazzari Bin Ahmad, *Sistem Kehadiran Berasaskan RFID Fakulti Sains Komputer dan Sistem Maklumat .*
18. Nor Azlinda Kasma Azizan Binti Kamal A Nasir, *Sistem Pemantauan Keluar Masuk- Pelajar Menggunakan RFID dan SMS di Kolej 9.*
19. Norazwan Bin Nordin, *Sistem Penempahan Ruang Bestari.*
20. Nursuhana Binti Johar, *Sistem Permohonan Peralatan dan Alatulis.*

21. Ong Kok Wei, *Sistem Tempahan Temujanji Pensyarab Berintegrasi Dengan Sistem-Kedatangan Pensyarab.*
22. Raziman Bin Zakaria, *Sistem Inventori Blazer dan Vest Menggunakan RFID.*
23. Siti Noorsakila Binti Zakaria, *Sistem Pengurusan Konvokesyen UTM Atas Talian.*
24. TanTze Xin, *Sistem Perbandingan Harga Produk Telefon Mudah Alih Secara Atas Talian.*
25. Mohd Zahir bin Adnan, *Permainan Teka Silangkata Mudah Alih.*
26. Wan Mohd Yakob Bin Wan Bejuri, *Permainan Susun Huruf Dengan Menggunakan Telefon Bimbit Secara Ramai Pemain Dengan Menggunakan Teknologi Bluetooth.*
27. Nurul Asyikin Sutan Shahril, *Sistem Pemberitahuan Lokasi Pusat-pusat Kecemasan-Yang Terdekat Dengan Menggunakan PDA Berasaskan Web.*
28. Muhammad Faris Bin Mohd Zain, *Sistem Tempahan Bersepadu Rumah Tamu U9 Secara Atas Talian dan SMS.*

2008

Post Graduate Research Student Supervision (Pursuing)

1. Mohammad-Taghi Kheirabadi -PhD, Underwater Acoustics Sensor Network Protocol.
2. Md. Fadil Md. Esa -MSc by Research, Optimal Path Planning for Robotic Manipulator.
3. Muhammad Danial -MSc by Research-, Fault-Tolerant Mobile IPv6 Handover Scheme for Real Time Communication.
4. Wan Mohd Yakob bin Wan Bejuri -MSc by Research, Integration of Multi-sensor for Modern Cadastral Control Point.

Industrial Training Supervision

- 2009, 13 Dec
-2010, 1 May Peter Ku Soo Lin, Binaries Group Limited 100, Beach Road, 13-03 Shaw Tower, 189702 Singapore.
- Yap Yee Kee, Philips Electronics (S) Pte Ltd 620A Lorong 1, Toa Payoh Building TP2, Level 1, 319762 Toa Payoh.
- 2008, 5 May
- 4 July Anuar Bin Sulaiman, Majlis Perbandaran Johor Bahru Tengah Central Johor Bahru Town Council.

Mohd Hishamuddin Bin Abdul Rahman, Majlis Perbandaran Johor Bahru Tengah *Central Johor Babru Town Council*.

Mohd Arizan Bin Abdullah, Majlis Perbandaran Johor Bahru Tengah *Central Johor Babru Town Council*.

Danakorn Nincarean A/L Eh Phon, Majlis Perbandaran Johor Bahru Tengah *Central Johor Babru Town Council*.

Administration

- 2012, 11 Nov. Resident College Principal College of Perdana
- current
- 2011, 8 Oct - UTM Part Time Study Co-ordinator
current
- 2007, 1 Sept. Resident College College of Tun Ghafar Baba
- 2012, 31
Aug. Acting Resident College College of 16 & 17
- 2007, 1 Sept.
- 15 Aug.

Professional Membership

- 2013 - 2014 Member of Society of Digital Information and Wireless Communication. Member no. 1853.
- 2002 - current Member of IEEE. Member no. 41536103.
- 2009 - 2011 Entry Level Scientific Diver, International Technical Diving Agency ITDA Europe
-member no. 196373.

Certification

- 2009 EC-Council Network Security Administrator (ENSA)

Member of Various University's Committee

- 2008, 30 Internal Audit Evaluator of Biomedical and Health Science Faculty .
Oct. - 7 Nov.
- 2007, 1 Jan. Committee of Faculty of Computer Science and Information System Student Develop-
- 2008, 31
Dec. ment Program.

Training

- 2007, 26 Feb. Infosys Foundation Program, Infosys Mysore Campus, India, .
- 26 June

2007, 5-16 Do Son School On Advanced Computing and Grid Technologies for Research, IoIT
Nov. Vast, Hanoi, Vietnam.

Workshop

2008, 29 Smarten Up Programme for Resolution of College Principal Workshop, The Zon Re-
Oct. gency Hotel by The Sea, Johor Bahru.

2008, 16-18 Workshop On Preparation of the New Postgraduate Programme for FSKSM, Holiday
Dec. Villa, Cherating, Pahang.

2008, 5 Dec. Workshop On Strengthening the Master of Science -Computer Science Programme,
Block D07, Fakulti Sains Komputer dan Sistem Maklumat, UTM Skudai.

Courses

2008, 8 Sept. Course on Supervision and Evaluation Postgraduate Studies (Series 15), UTM Training
Centre, UTM Skudai.

2008, June Course on Competency Level Evaluation 1st Phase 2008, Alumni House, UTM Skudai

2008, 8 - 20 Course on Academic Audit, Hotel Seri Malaysia, Mersing Johor.
Apr.

2008, 28 - 29 Basic Course on E-Learning, Centre of Teaching & Learning (CTL), UTM Skudai.
Jan.

2006, 28 Induction Course (Administration and Professional Group), Block P19, Faculty of Elec-
Nov. - 14 trical Engineering, UTM Skudai.
Dec.

Articles, Proceeding Paper, and Book Reviewer

2009, Apr IEEE Transactions on Education, *"Analysing convergence in e-learning resource filtering
based on ACO techniques: a case study with telecommunication engineering students"*.

2006, Dec Kolej Universiti Teknologi Tun Hussein Onn Publisher, PIC 16F84.

Moderator and Chairperson

2008, 22-23 Moderator for Technical Session of the National Student Development Conference,
Nov. Dewan Sultan Iskandar, Universiti Teknologi Malaysia.

2008, 30 Chairperson of 'Security & Network' in the 4th Postgraduate Annual Research Seminar
Jun.-3 Jul. 2008 (PARS'08), Fakulti Sains Komputer dan Sistem Maklumat, UTM Skudai.

2007, July 3- Chairperson of 'Security & Network', Postgraduate Annual Research Seminar 2007
4 (PARS 07) Fakulti Sains Komputer dan Sistem Maklumat, UTM Skudai.

2007, July 2- Panel for 'Research Methodology Workshop' (round Table Discussion), Fakulti Sains
5

Komputer dan Sistem Maklumat, UTM Skudai.

Community Services

- 2013, March 7-10 Program Advisor for UTM IPGCE (Industry Pasir Gudang Community Engagement), Kampung Sepakat, Masai, Pasir Gudang, Johor.
- 2013, August 14-31 Program Advisor for TRANS 1MALAYSIA, Kayuhan Kibar Jalur Gemilang ” Sayangi Jantung Anda”, Malaysia Peninsular.

Other Activities

- 2008, 22-24 Apr. Paper Reviewer of Postgraduate Annual Research Seminar 2008 PARS 08, Fakulti Sains Komputer dan Sistem Maklumat, UTM Skudai.
- 2008, 11-13 Jul. Escorting Officer of Berkelah Basic Outdoor Expedition, Student Committee of College Tun Ghafar Baba, Hutan Lipur Berkelah, Pahang.
- 2008, 22 Feb.- 8 Mar. 12th General Election Observer , Johor Bahru.
- 2008, 4- 6 Jan. Resident Fellow Convention, Fellow Development Institution of Student Affairs Office, Golden Straits Villas Beach Resort, Port Dickson.
- 2007, 20 Sept. Participants of Talks on “The Malaysian Qualifications Agency Act 2007 – Key Features and Implication to Higher Education in Malaysia.”

Referees

Dr. Matthew W. Dunnigan
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School of EPS - EECE
Earl Mountbatten Building
Heriot-Watt University
Edinburgh
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Prof. Dr. Nicholas Kenelm Taylor
Head of Computer Science
Department of Computer Science
School of Mathematical and Computer Sciences
Heriot-Watt University
Riccarton, Edinburgh
EH14 4AS, Scotland
United Kingdom
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Fax: +44 (0)131 451 3327