

CURRICULUM VITAE

Mohamed S. Kamel

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1 DEGREES

Ph.D. Computer Science	University of Toronto Toronto, Ontario, Canada	1981
M.Sc. Computer Science	McMaster University Hamilton, Ontario, Canada	1974
B.Sc. Electrical Engineering	University of Alexandria Alexandria, Egypt	1970

2 PROFESSIONAL EXPERIENCE

2008- Present	University Research Chair
2001-2008	Canada Research Chair Professor Cooperative Intelligent Systems
2004-Present	Professor, tenured Dept. of Electrical & Computer Engineering University of Waterloo, Waterloo, Ontario.
1995-May 2004	Professor, tenured Dept. of Systems Design Engineering University of Waterloo, Waterloo, Ontario
1997 (6 mos. Sabb)	Visiting Professor University of Porto Porto, Portugal

- 1996 (4 mos. Sabb) Visiting Professor
NASA ACE Center
Dept. of Electrical and Computer Eng.
University of New Mexico
Albuquerque, NM 87131
- 1992-1996 Associate Chair, Graduate Studies
University of Waterloo, Waterloo, Ontario
- 1990-1995 Associate Professor, tenured
Dept. of Systems Design Engineering
University of Waterloo, Waterloo, Ontario
- 1989 (9 mos. Sabb) Visiting Associate Professor
Dept. of Computer Science
University of Toronto, Toronto, Ontario
- 1989 (3 mon. Sabb) Visiting Scientist
School of Electrical and Computer Engineering
Purdue University
West Lafayette, Indiana, U.S.A.
- 1985-1990 Assistant Professor
Dept. of Systems Design Engineering
University of Waterloo, Waterloo, Ontario
- 1983-1984 Assistant Professor
Dept. of Computing and Information Science
University of Guelph, Guelph, Ontario
- 1980-1983 Senior Principal Engineer and Project Leader
NCR Canada Ltd., Waterloo, Ontario
- 1977-1980 Teaching Assistant
University of Toronto, Toronto, Ontario
- 1973-1977 Teaching Assistant
McMaster University, Hamilton, Ontario
- 1970-1972 Teaching Assistant
University of Alexandria, Alexandria, Egypt

3 AREAS OF EXPERTISE

Computational Intelligence, Pattern Recognition, and Image Processing.

4 STRENGTH

- Strong combination of academic and industrial experience through my work in Universities and Industry and continued involvement in companies as board member and scientific advisor.
- Formal training and education in both Engineering and Computer Science.
- Excellent administrative capabilities and experience in management, leadership and supervision.
- Experience in establishing and enhancing graduate and undergraduate programs.
- Excellent track record in conducting contract research and technology transfer.
- Excellent track record in securing funding and research grants.
- Background and preparation suitable for undertaking multidisciplinary research projects and providing effective guidance.
- Ability to teach courses in new areas such as machine intelligence, neural networks, computer vision and robotics.

5 AWARDS AND HONORS

- 2010 Award of Excellence in Graduate Supervision, University of Waterloo
- 2010 IEEE Canada Computer Medal for Outstanding Contributions to Pattern Recognition and Intelligent Systems
- 2008 International Association of Pattern Recognition (IAPR) Fellow
- 2007 Canadian Academy of Engineering (CAE) Fellow
- 2007 Engineering Institute of Canada (EIC) Fellow
- 2005, IEEE Fellow
- 2010, 2007 and 2004, Outstanding Performance Award- University of Waterloo.
- 2001, Senior Member of the Society for Modeling and Simulation.
- 2000, Distinguished Performance Award, Faculty of Engineering, University of Waterloo.
- 1996, IEEE Senior Member.
- 1994, IEEE Computer Society Press, Outstanding Referee Award.
- 1992, Best Paper Award, International Symposium of Robotics and Manufacturing, New Mexico.
- 1984, Systems Research Foundation Award for Outstanding Presentation, International Conference on Systems Research, West Germany.
- 1983, NCR Inventor Award.
- 1975-1978, National Research Council Postgraduate Scholarship.
- Listed in Personalities of America, 4th edition, The American Biographical Institute
- Presented seminars and invited lecturers to a number of Academic and Industrial Institutions.
- Served as Conference Chair, co-chair, Program Chair, Session Chairman, Session Organizer and member of Program Committees of many Scientific Conferences.

6 PROFESSIONAL ACTIVITIES

6.1 Editorial

- Editor-in-Chief, International Journal of Robotics and Automation, Acta Press.
- Associate Editor, IEEE Trans Systems. Man and Cybernetics, Part A, IEEE Press.
- Associate Editor, Pattern Recognition, Elsevier
- Associate Editor, Pattern Recognition Letters, Elsevier
- Associate Editor, Computational Intelligence, Blackwell
- Editorial Advisory Board, International Journal of Image and Graphics, World Scientific.
- Editorial Advisory Board, Intelligent Automation and Soft Computing, TSI Press.
- Editorial Board, Cognitive Neurodynamics, Springer (3/2007- 3/2011)
- Associate Editor, Simulation, The Journal of The Society for Computer Simulation (till 2004).
- Guest Editor of 8 special issues in 8 international journals.

6.2 Consulting (current and past)

- Co-founder and chair of the Technology Advisory Group of Virtek Vision International Inc., Canada (acquired by Gerber Technology in 2008), served as member of the Board of Directors (1992-2008) and as VP Research and Development (1987-1992).
- Member of the scientific advisory board of Pattern Discovery software Systems Inc., Waterloo, Canada.
- Provided consulting service and contract research to companies and government institutions such as: Canadian Space Agency, Thomson-CSF. Canada, General Motors of Canada, IBM of Canada, Northern Telecom of Canada, NCR Canada Limited, SPAR Aerospace of Canada, Diffracto Canada Ltd, and Bell & Howell Canada Ltd.

6.3 Memberships of Professional Societies

- Association of Computing Machinery (ACM)
- Institute of Electrical and Electronic Engineers (IEEE)
- Association of Professional Engineers of the Province of Ontario (PEO)
- American Association of Artificial Intelligence (AAAI), till 2005.
- New York Academy of Sciences, till 2005.
- International Society of Computer Simulation, till 2004.
- Co-founder and President of Association for Image and Machine Intelligence, not-for-profit association, 2006-present.

6.4 Participation in University, Faculty and Department Committees

6.4.1 University and Faculty

- Member of the Cognitive Science Advisory board (2000-present).
- Member of the Faculty Research Planning Committee (2004- 2006).
- Member of the University Appointment Review Committee (2000-2005).
- Member of the ad hoc Committee on Engineering Software Option (1998-1999).

- Member of Faculty Promotions Committee (1997-2001).
- Member of Faculty of Engineering Graduate committee (1986-1988, 1990-1996).
- Member of Faculty of Engineering Undergraduate Committee (1991-1992).
- Member of Faculty of Engineering Council (1986-1988, 1990-1991).
- Member of Ontario Graduate Scholarship Selection Panel, 1992.
- Coordinator of Upper Year Scholarships and Undergraduate Research, Assistantships for the Faculty of Engineering (1986-1988).
- Member of Waterloo Center for Integrated Manufacturing (WATCIM) committee 1987.

6.4.2 Department

- Director of Center for Pattern Analysis and Machine Intelligence (CPAMI) (2011-present)
- Director of the Pattern Analysis and Machine Intelligence Group (PAMI) (2001-Present), involves 5 faculty members and more than 50 students.
- Member of the Department Tenure and Promotion Committee (DTPC)- June 2008-Aug 2009, 2011-2013.
- Member of Departmental Appointment Advisory Committee (DACA)- Sept 2006-Aug 2009.
- Member of the Department Research Planning Committee (2004) and (2010-2011).
- Member of the Departmental Resources Committee (1998-2004).
- Member of Departmental Income Generation Committee (1995-1996).
- Associate Chair for Graduate Studies (1992-1996).
- Associate Director of Pattern Analysis and Machine Intelligence Group (PAMI), (1990-2001).
- Member of the Departmental Tenure and Promotion Committee (1991-1996, 2002-2004)
- Member of the Departmental Graduate Committee (1985-1988, 1991-1996).
- Member of the Departmental Undergraduate Committee (1992-1996, 1998-2004).
- Department's Computer Representative (1986-1988).
- Department's Computer Engineering Officer (1987, 1991-2004).
- Member of Graduate committee, University of Guelph, participated in preparing a proposal for M.Sc. program in computing (1983-1985).

6.5 Supervising Committees (1985 to present)

- Member of over 50 Ph.D. Supervising Committees
- Reader of over 50 M.Sc. Theses in Systems Design and Electrical Engineering.

7 SUPERVISION AND TEACHING ACTIVITY

7.1 SUPERVISION/COSUPERVISION

- **Graduate:** *Completed* 39 M.Sc., 45 Ph.D. Students, 10 Research Faculty and postdoctorate fellows
Currently 8 Ph.D. Students, 3 postdoctorate fellows
- **Undergraduate:** Supervised many workshop projects (mainly third and fourth year)

7.2 TEACHING

Taught and introduced new courses on the following subjects:

- Graduate
 - Data and Knowledge Modeling and Analysis (new)
 - Neural Networks and Engineering Applications (new)
 - Introduction to Machine Intelligence (new).
 - Advanced Topics in Machine Intelligence (new).
 - Robotic Engineering (new).
 - Computer Algorithms Design and Analysis
 - Computer Aided Simulation and Design

- Undergraduate
 - Cooperative and Adaptive Algorithms (new)
 - Machine Intelligence (new)
 - Computer Vision (new)
 - Pattern Recognition (new)
 - Computer Algorithms Design and Analysis
 - Software Design
 - Fundamentals of Data Structures and Algorithms.
 - Numerical Analysis and Computer Methods.

8 GRANTS AND RESEARCH CONTRACTS

- 2010-2015 NSERC Discovery Grant \$34,000/year
- 2010-2013 NSERC CRD (w Karray and Basir) Grant \$115,000/year
- 2005-2010 NSERC Discovery Grant \$37,000/year
- 2001-2008 Canada Research Chair \$200,000/year
- 2008-2013 ORF (with University of Ottawa) \$4.5 Million, PAMI share \$1.898 Million.
- 2008 Erhardt-Leimer Research Contract, \$45,500.
- 2007-2010 NSERC/Open-text CRD (w Karray (PI) and Basir), \$585,142.
- 2003-2008 NSERC Research Network on Learning Objects Repositories (w 6 theme leaders and 20PI's) \$1.5million/year. PAMI share is \$225,000/year (includes industrial support from 3 companies).
- 2004-2005 CFI/OIT/MEDT/Quebec FI (w M. Cheriet (PI) at UQAM and involves 5 other Universities), \$3.7 Million.
- 2004-2007 NSERC Collaborative Health Research Grant (w Salama (PI) and group) \$102,140/year
- 2002-2005 NSERC Collaborative Health Research Grant (w Salama and group from UWO) \$86,240/year
- 2002-2008 Canadian Institute of Health Research CIHR (w Salama and group from UWO) \$215,000/year

- 2002-2004 Manufacturing and Materials of Ontario and Linmar/IMS, (w Basir and Karray) \$215,000/year
- 2001-2002 Canada Foundation for Innovation \$198,684
- 2001-2002 Ontario Innovation Trust \$198,684
- 2001-2005 NSERC Research Grant \$32,000/year
- 2001-2004 NSERC Strategic grant \$116,245/year
- 2001-2002 Manufacturing and Materials of Ontario and VRP Web Technology \$187,312/year
- 2000-2001 NSERC Equipment Grant (With Karray and A.K.C. Wong) \$106,993
- 1996-1999 NSERC Strategic grant \$69,600/year
- 1996-2001 NSERC Research grant \$22,000/year
- 1998-1999 NSERC Equipment Grant \$14,492
- 1998-1999 Manufacturing and Materials of Ontario Research grant (with A.K.C. Wong Co-PI), \$220,000/year
- 1999-2000 TeleLearning Network of Centers of Excellence (T.Carey theme leader), \$35,000/year
- 1998-2000 NCR Research Contract \$49,384/year
- 1998-1998 NCR Research Grant \$14,000
- 1997-10999 VRP Research Contract \$70,694/year.
- 1997-2000 ASM Research Contract (with A.K.C. Wong) \$432,200
- 1996-1998 Manufacturing Research Co. and Virtek Co. Collaborative grant (with A.K.C. Wong) \$231,675/year.
- 1993-1997 Manufacturing Research Co. (Ontario Center of Excellence), Research Grant (with A.K.C. Wong, H. Shen, G. Heppler and G. Pang) \$398,000/year
- 1995-1998 TeleLearning Network of Centers of Excellence (T.Carey theme leader), \$17,000/year
- 1993-1995 Manufacturing Research co. (Ontario Center of Excellence), Research Grant (with T. Vanneli and K. Ponnambalam), \$75,000/year
- 1994-1997 NSERC Research Grant \$12,000/year
- 1994-1995 TRACE Learning Technolgy Grant \$7,000/year.
- 1995-1995 Virtek Vision Corp. IRAP project (with A.K.C. Wong), \$30,000
- 1994-1995 Canadian Space Agency, Research Contract \$16,532.00
- 1993-1994 Canadian Space Agency, Research Contract \$17,946.00
- 1992-1992 Northern Telecom, Research Contract (with H.Shen and G. Pang) \$50,000.
- 1991-1992 STEAR via Thomson CSF, Research Contract (with A.K.C.Wong) \$85,000
- 1990-1993 NSERC Operating Grant \$10,000/year.
- 1990-1990 Northern Telecom, Research Contract (with A.K.C. Wong and H. Shen) \$59,923.00
- 1990-1990 NCR Canada, Research Contract \$5960
- 1989-1990 University Research Incentive Funds, Research Grant \$5960
- 1988-1989 IBM Canada, Research Contract (With A.K.C. Wong and H. Shen) \$160,000

- 1988-1988 Spar Aerospace Co., Research Contract (with A.K.C.Wong) \$50,000
- 1987-1992 Manufacturing Research Co. (Ontario Center of Excellence), Research Grant (with A.K.C. Wong and H. Shen) \$290,000/year
- 1987-1992 Information Technology Research Center (Ontario Center of Excellence), Research Grant (with A.K.C. Wong and H. Shen) \$70,000/year
- 1987-1988, University Research Incentive Funds, Research Grant \$17,466
- 1987-1988 Videtics Ltd., Research Contract \$5,822
- 1987-1987 Northern Telecom Canada, Research Contract (with A.K.C.Wong) \$25,000
- 1986-1987 General Motors Corporation, Research Contract (with A.K.C.Wong) \$103,500
- 1982-1987 NSERC Operating Grants, \$11,223/year

9 PUBLICATIONS

Summary of contributed research publications

Granted Patents	2
Edited books and Conference Proceedings	11
Journal special issues	8
Book chapters	19
Journal papers	141
Conference papers	312
Invited talks and keynote presentations	23
Posters and abstracts	16
Technical Reports	33
	Total 565

Patents

1. Wong, A.K.C., Kamel, M.S., and King, J.T., “Apparatus and Method for Inspection of Surface Quality of Smooth Surfaces”, U.S. Patent No. 5090804, Canadian Patent No. 1295707, 1992.
2. Mazumder, A., and Kamel, M.S., “Bar Code and Reading and Decoding Device”, U.S. Patent No. 4641018, 1987.

Edited Books and Proceedings

1. Campilho, Aurelio and Kamel, Mohamed (Eds), Image Analysis and Recognition, Proceedings of the International Conference on Image Analysis and Recognition (ICIAR) 2010, Lecture Notes in Computer Science, Part I, LNCS 6111 and Part II, LNCS 6112, Springer, 2010.
2. Kamel, Mohamed and Campilho, Aurelio, (Eds), Image Analysis and Recognition, Proceedings of the International Conference on Image Analysis and Recognition (ICIAR) 2009, Lecture Notes in Computer Science, LNCS 5627, Springer, 2009.
3. Campilho, A. and Kamel, M., (Eds), Image Analysis and Recognition, Proceedings of the International Conference on Image Analysis and Recognition (ICIAR) 2008, Lecture Notes in Computer Science, LNCS 5112, Springer 2008.

4. Kamel, Mohamed and Campilho, Aurelio, (Eds), Image Analysis and Recognition, Proceedings of the International Conference on Image Analysis and Recognition (ICIAR) 2007, Lecture Notes in Computer Science, LNCS 4633, Springer, 2007.
5. Campilho, A. and Kamel, M., (Eds), Image Analysis and Recognition, Proceedings of the International Conference on Image Analysis and Recognition (ICIAR) 2006, Lecture Notes in Computer Science, Part I, LNCS 4141 and Part II, LNCS 4142, Springer, 2006.
6. Kamel, Mohamed and Campilho, Aurelio, (Eds), Image Analysis and Recognition, Proceedings of the Second International Conference on Image Analysis and Recognition (ICIAR) 2005, Lecture Notes in Computer Science, LNCS 3656, Springer, 2005.
7. Zhang, D., Kamel, M., Baciú, G., (Eds), Integrated Image, graphics Technologies, Kluwer Academic Publishers, 2004.
8. Campilho, A. and Kamel, M., (Eds), Image Analysis and Recognition, Proceedings of the International Conference on Image Analysis and Recognition (ICIAR) 2004, Lecture Notes in Computer Science, Part I, LNCS 3211 and Part II, LNCS 3212, Springer, 2004.
9. Caelli, T., Amin, A., Duin, R., Kamel, M. and de Ridder, D., (Eds), Structural, Syntactic and Statistical Pattern Recognition, Proceedings of the joint International Association for Pattern Recognition (IAPR) International Workshops SSPR 2002 and SPR 2002, Lecture Notes in Computer Science, LNCS 2396, Springer, 2002.
10. Shen, W., Lin, Z., Barths, J.P. and Kamel, M., Editors, Proceedings of the sixth International Conference on Computer Supported Cooperative Work (CSCW) in Design, NRC press, 2001.
11. Jamshidi, M., Pierrot, F. and M. Kamel, M., (eds.) Robotics and Manufacturing, Vol. 7, Preface, Albuquerque, NM: TSI Press, 1998.

Guest Editorial and Special issues in Journals

1. Khan, M., Kamel, M., and Jiang X., "Special Issue On: Recent Advances and Future Directions in Biometrics Personal Identification", Journal of Network and Computer Applications, Vol. 33, No. 3, pp. 205-206, 2010.
2. Ghenniwa, H., Shen, W. and Kamel, M., Guest Editors for special issue on Agents Meet Robots, International Journal of Robotics and Automation, Vol. 21, No. 2, 2006.
3. Amin, A. and Kamel, M., Guest Editors for special issue on Document Image Analysis and Recognition, International Journal of Image and Graphics, Vol. 5, No. 2, 2005.
4. Kamel, M., and Padilha J., Guest Editors for special issue on Visual Inspection, International Journal of Machine Vision and Applications, Vol. 12, No. 4, 2000.
5. Kamel, M. and Jamshidi, M., Guest Editors for Special issue on Intelligent Distributed Systems, Intelligent Automation and Soft Computing Journal, Vol. 6, No. 3, 2000.
6. Kamel, M. and Jamshidi, M., Guest Editors for Special issue on Distributed Manufacturing Systems, Intelligent Manufacturing Journal, Vol. 11, No. 3, 2000.
7. Kamel, M. and Wesolkowski, S., Guest Editors for Special issue on Document Image Analysis, Canadian IEEE Journal, Vol. 24, No. 2, 1999.
8. Campilho, A. and Kamel, M., Guest Editors for special issue on Deformable Models, International Journal of Signal Processing, Vol. 71, No. 2, 1998.

Refereed Chapters in Books

- 1 Ahmadi, A., Karray, F. and Kamel, M., "Task Decomposition Using Multiple Cooperative Particle Swarms for Phoneme Recognition", Engelbrecht, A.P. and Middendorf, M., (editors), *Applied Swarm Intelligence*, accepted 2009.
- 2 Ahmadi, A., Karray, F. and Kamel, M., "Stability-based Model Order Selection for Clustering Using Multiple Cooperative Particle Swarms", Abraham, A., (editor), *Foundations of Computer Intelligence*, pp. 197-218, 2009.
- 3 El Abd, Mohammed and Kamel, Mohamed, "PSO_Bounds: A New Hybridization Technique of PSO and EDAs", in *Foundations of Computational Intelligence Volume 3*, Ajith Abraham, Aboul-Ella Hassanien, Patrick Siarry, and Andries Engelbrecht (Eds.), Springer book series on Studies in Computational Intelligence, pp. 509-526, 2009.
- 4 Shokri, M., Tizhoosh, H.R., and Kamel, M.S., "The Concept of Opposition and Its Use In Q-learning and Q(lambda) Techniques," Tizhoosh, H.R. and Ventresca, M., (editors), *Oppositional Concepts in Computational Intelligence*, pp. 233-253, 2008.
- 5 S. Shehata, F. Karray, M. Kamel, "Concept-based Mining Model", Ali and Xiang (ed.), in *Dynamic and Advanced Data Mining for Progressing Technological Development*, IGI Global, pp. 57-69, 2008.
- 6 Makrehchi, M. and Kamel, M. S., "Aggressive Feature Selection by Feature Ranking", in Huan Liu and Hiroshi Motoda, (eds), *Computational Methods of Feature Selection*, Chapman and Hall/CRC Press, Ch 16, pp 313-333, 2007.
- 7 Shokri, M., Tizhoosh, H.R., Kamel, M., "The Outline of a Reinforcement-Learning Agent for E-Learning Applications", Samuel Pierre (ed.) "E-Learning Networked Environments and Architectures: A Knowledge Processing Perspective", Springer Book Series: Advanced Information and Knowledge Processing, 2007.
- 8 Hammouda, K. and Kamel, M., "Data Mining in e-Learning", Samuel Pierre (ed.) "E-Learning Networked Environments and Architectures: A Knowledge Processing Perspective", Springer Book Series: Advanced Information and Knowledge Processing, pp.1-28, 2007.
- 9 El Abd, Mohammed and Kamel, Mohamed, "Cooperative Particle Swarm Optimizers: A Powerful and Promising Approach", in Ajith Abraham, Crina Grosan and Vitorino Ramos, (eds), *Stigmergic Optimization, Studies in Computational Intelligence, Studies in Computational Intelligence*, pp. 239-260, 2006.
- 10 Yang, Yan and Kamel, Mohamed, "Clustering ensemble using ANT and ART", in Ajith Abraham, Crina Grosan and Vitorino Ramos, (eds), *Swarm Intelligence and Data Mining, Studies in Computational Intelligence*, Springer-Verlag, pp. 243-262, 2006.
- 11 Hussin, M.F., Kamel, M., Bassiouny, S. and Nagi, M., "Enhanced web document clustering using Neural Network," in Wang D. and Kion L. N. (Eds.), "Applications of Neural Networks in Information Technology and Web Engineering", Borneo Publishing Co., pp. 187-202, 2005.
- 12 Hussin, M.F., Bakus, J., and Kamel, M., "Enhanced phrase-based document clustering using Self-Organizing Map (SOM) architectures", in Rajapakse, J.C and Wang, Lipo, (eds), *Neural Information Processing: Research and Development*, Springer – Verlag, pp. 405-424, 2004.
- 13 Wanas, N. and Kamel, M., "Adaptive Training for Combining Classifier Ensembles", in Rajapakse, J.C and Wang, Lipo, (eds), *Neural Information Processing: Research and Development*, Springer – Verlag, pp. 278-293, 2004.

- 14 Kamel, M. and Ghenniwa, H., "Partially Overlapped Systems: The Scheduling Problem", in H. Parasaei and M. Jamshidi (eds), Design and Implementation of Intelligent Manufacturing, Prentice Hall, New Jersey, Ch 11, pp. 241-274, 1995.
- 15 Moussa, E.S. and Kamel, M., "Partitioning Techniques for Cellular Manufacturing", in A. Kamrani, H. Parasaei and D. Liles (eds), Planning, Design and Analysis of Cellular manufacturing Systems, Elsevier Science Publishers, Amsterdam, pp. 73-95, 1995.
- 16 Kamel, M. and Ghenniwa, H., "Coordination of Distributed Intelligent Systems", in F. Aminzadeh and M. Jamshidi, eds. Soft Computing: Fuzzy Logic, Neural Network and Distributed Artificial Intelligence, Prentice Hall, New Jersey, Ch. 11, pp. 229-260, 1994.
- 17 Zhang, D., Kamel, M. and Elmasry, M.I., "A Parallel ANN Architecture for Fuzzy Clustering", in M.I.Elmasry, (ed.), VLSI Artificial Neural Networks Engineering, Kluwer, CH. 8, pp. 277-296, 1994.
- 18 Fakhr, W., Kamel, M. and Elmasry, M.I., "Minimum Complexity Neural Networks for Classification", in M.I. Elmasry, (ed.), VLSI Artificial Neural Networks Engineering, Kluwer, Ch. 7, pp. 247-282, 1994.
- 19 Kamel, M. and Syed, A., "An Object-oriented Multiple Agent Planning System", in L. Gasser and M. N. Huhns,eds. Distributed Artificial Intelligence, Vol. II, Pitman Publishing Ltd., London, Ch. 12, pp. 259-290, 1989.

Refereed Journal Papers

- 1 Shehata, S., Karray, F. and Kamel, M., "An Efficient Concept-based Retrieval Model For Enhancing Text Retrieval Quality", Knowledge and Information Science, KAIS, accepted 2011.
- 2 Makrehchi, M., Kamel, M.S., "Impact of Term Dependency and Class Imbalance on the Performance of Feature Ranking Methods for Text Classifiers", International Journal of Pattern Recognition and Artificial Intelligence, accepted 2011.
- 3 Miao, Y., Khamis, Alaa, Karray, F. O., Kamel, M., "A Novel Approach to Path Planning for Autonomous Mobile Robots", International Journal of Control and Intelligent Systems, accepted 2011.
- 4 Hassan, M., Karray, F., Kamel, M.S. and Ahmadi, A., "An Integral Approach for Geno-Simulated Annealing", International Journal of Computer Information Systems and Industrial Management (IJCISIM), accepted 2011.
- 5 Ahmadi, A., Karray, F. and Kamel, M., "Model Order Selection for Multiple Cooperative Swarms Clustering Using Stability Analysis", Information Sciences, accepted 2010.
- 6 Farahat, A. and Kamel, M., "Statistical Semantics for Enhancing Document Clustering", Knowledge and Information Systems (KAIS) Journal, accepted 2010.
- 7 Miao, Y., Kamel, M., "Pairwise Optimized Rocchio Algorithm for Text Categorization", Pattern Recognition Letters, Vol. 32, No. 2, pp. 375-382, 2011.
- 8 ElAyadi, M, Kamel, M.S., and Karray, F., "Survey on Speech Emotion Recognition: Features, Classification Schemes and Databases", Pattern Recognition, Vol. 44, No. 3, pp. 572-587, 2011.
- 9 Makrehchi, Masoud and Kamel, Mohamed S., "An information theoretic approach to generating fuzzy hypercubes for if-then classifiers", Journal of Intelligent & Fuzzy Systems 22, pp. 33-52, 2011.

- 10 Shehata, S., Karray, F. and Kamel, M., "An Efficient Model For Enhancing Text Categorization Using Sentence Semantics", *Computational Intelligence*, Vol. 26, No. 3, pp. 215-231, 2010.
- 11 Shehata, S., Karray, F. and Kamel, M., "An Efficient Concept-based Mining Model for Enhancing Text Clustering", *IEEE Transactions Knowledge and Data Engineering*, Vol 22, No. 10, pp. 1360-1371, 2010.
- 12 Ahmadi, A., Karray, F. and Kamel, M., "Flocking Based Approach for Data Clustering", *Natural Computing*, Vol. 9, No. 3, pp. 767-791, 2010.
- 13 El-Abd, M. and Kamel, M., "A Cooperative Particle Swarm Optimizer with Migration of Heterogeneous Probabilistic Models", *Swarm Intelligence*, Springer, Vol. 4, No. 1, pp. 57-89, 2010.
- 14 Kashef, R., and Kamel, M., "Cooperative Clustering", *Pattern Recognition*, Vol. 43, No. 6, pp. 2315-2329, 2010.
- 15 Kong, A., Zhang, D., and Kamel, M., "An Analysis of IrisCode", *IEEE Transaction on Image Processing*, Vol. 19, No. 2, pp. 522-532, 2010.
- 16 Dara, R., Makrehchi, M. and Kamel, M., "Filter-based Data Partitioning for Training Multiple Classifier Systems" *IEEE Transactions Knowledge and Data Engineering*, Vol. 22, No. 4, pp. 508-522, 2010.
- 17 Ayad, H and Kamel, M., "On Voting-Based Consensus of Cluster Ensembles", *Pattern Recognition*, Vol. 43, No. 5, pp. 1943-1953, 2010.
- 18 Xia, Y and Kamel, M.S., Leung, H., "A Fast Algorithm for AR Parameter Estimation Using A Novel Noise-Constrained Least Squares Method", *Neural Networks*, Vol. 23, No. 3, pp. 396-405, 2010.
- 19 El-Abd, M., Hassan, H., Anis, M., Kamel, M. and El-Masry, M. I., "Discrete Cooperative Particle Swarm Optimization for FPGA Placement", *Applied Soft Computing*, Vol. 10, No. 1, pp. 284-295, January 2010.
- 20 Rasheed, Sarbast, Stashuk, Daniel W. and Kamel, Mohamed S., "Integrating Heterogeneous Classifier Ensembles for EMG Signal Decomposition Based on Classifier Agreement", *IEEE Trans. Information Technology in Biomedicine*, Vol. 14, No. 3, pp. 866-882, June 2010.
- 21 AL-Mutairi, M., Hipel, K. and Kamel, M., "Two Decision-Maker Conflict Resolution with Fuzzy Preferences", *Reliability Engineering and System Safety Journal*, accepted 2007.
- 22 Hammouda, K., Kamel, M. S., "Hierarchically-Distributed Peer-to-Peer Document Clustering and Cluster Summarization", *IEEE Transaction on Knowledge and Data Engineering*, Vol. 21, No. 5, pp. 681-698, 2009.
- 23 Kamel, M.S. and Xia, Y., "Cooperative Recurrent Modular Neural Networks for Constrained Optimization: A survey of models and applications", *Cognitive Neurodynamics*, Vol. 3, No.1, pp. 47-81, 2009.
- 24 Kashef, R., and Kamel, M, "Enhanced Bisecting k-means Clustering Using Intermediate Cooperation". *Pattern Recognition*, Vol. 42, No. 11, pp 2557-2569, 2009.
- 25 Yousri, Noha, A., Kamel, Mohamed, S., and Ismail, Mohamed, A., "A Distance-Relatedness Dynamic Model for Clustering High Dimensional Data of Arbitrary Shapes and Densities", *Pattern Recognition*, Vol. 42, No. 7, pp. 1193-1209, 2009 .
- 26 Kong, A., Zhang, D., and Kamel, M., "A Survey of Palmprint Recognition" *Pattern Recognition*, Vol. 42, No. 7, pp. 1408-1418, 2009.

- 27 Dara, R, Kamel, M, Wanas, N., "Data Dependency in Multiple Classifier Systems", *Pattern Recognition*, Vol. 42. No. 7, pp.1260-1273, 2009.
- 28 Chen, Lei and Kamel, Mohamed S, "A Generalized Adaptive Ensemble Generation and Aggregation Approach for Multiple Classifier Systems", *Pattern Recognition*, Vol 42, No. 5, pp. 629-644, 2009.
- 29 Sun, Y., Wong, A.K.C., Kamel, M.S., "Classification of Imbalanced Data: A Review", *International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI)*, Vol. 23, No. 4, pp. 687-719, 2009.
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1. Kamel, M, Decision aggregation and cooperative training in classifier ensembles”, Keynote presentation at the 21st Canadian Conference on Electrical and Computer Engineering, Niagra Falls, May 5-7, 2008.
2. Kamel, M and Karray, F., “Intelligent Multimedia Mining in e-Learning Environments”, Keynote presentation at the International Conference on Technology, Communication and Education (1-TCE2008), April 7-9, 2008-Kuwait.
3. Kamel. M., Knowledge and Data Mining: Current Research and New Directions, keynote speaker, Third International Conference on Scientific Research and its Applications, May 3-5 2007, Cairo, Egypt.
4. Kamel, M., Current Research in the Pattern Analysis and Machine Intelligence, Invited lecture. 1st International workshop on Computational Intelligence, Jan 23rd, 2006, Hiroshima, Japan.
5. Kamel, M., Decision Fusion and Cooperation in Multi-classifiers, keynote lecture at workshop on Industrial Safety and Risk Management, Jan 25th, 2006, Mizushima, Japan.
6. Kamel, M, “Text Classification and Clustering and their Applications in e-learning, keynote talk at the 4th Conference on e-learning applications, AUC, Cairo, Egypt, 2006.
7. Kamel, M., Data Dependence and Cooperation in Multi-classifiers, keynote talk in special session on Multiple Classifiers, INFOS 06: 4th International Conference, Cairo, Egypt, March 26th, 2006.
8. Kamel, M., Assessing the Quality of Graduate Programs and Research, plenary presentation, AEAS 06, Dec 27, 2006, Cairo Egypt.
9. Kamel, M., “Data and Knowledge Mining with Applications to Learning Objects”, Keynote speaker, 4th IASTED International Conference on Computational Intelligence, Calgary, Alberta, Canada, July 4-6, 2005.
10. Kamel, M., “Role of Knowledge and Data Mining in e-learning”, The 3rd Conference on e-Learning Applications, invited, Cairo, Egypt, January 15-16, 2005.
11. Kamel, M., “Decision fusion in cooperative adaptive systems”, Computer Supported Cooperative Work in Design, 2004, invited, Proceedings. The 8th International Conference on, Volume: 2, May 26-28, P. 5, 2004.
12. Kamel, M., “Artificial Intelligence and Robotics”, invited, The Conference Board of Canada, CIO council, 2001.
13. Kamel, M., “Artificial Neural Networks: State of the Art”, invited, Eleventh International Conference on Microelectronics, pp. 5-9, 1999.
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15. Kamel, M., “Artificial Neural Networks: New Models and Applications”, invited, Sixth International Conference on Microelectronics, Proc. pp. 272-275, 1994.
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18. Kamel, M., and Ghenniwa, H., "A Quantitative Analysis of Coordination for Dai Systems", Canadian Workshop on Dai, 1994.
19. Kamel, M., "Artificial Neural Networks for Image Processing", invited presentation, Fifth International Conference on Microelectronics, 1993.
20. Kamel, M., "Recent Advances in the use of computers to Achieve computational Intelligence", Plenary Session talk, invited, IASTED CAI, 1992.
21. Kamel, M., and Selim, S., "Efficient Algorithms for Solving the Fuzzy Clustering Problem", 2nd meeting of the European Pattern Recognition Association, invited, 1990.
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Conference Presentations (Posters and Abstracts)

1. Bakus, J., Kamel, M., and Carey, T., "Extraction, Representation, and Sharing of Knowledge in Text Documents", poster at the Telelearning Network of Centers of Excellence Conference, Toronto, November 2000.
2. Ayad, H., and Kamel, M., "A Multiagent Approach to User Profile" Learning, poster at the Telelearning Network of Centers of Excellence Conference, 2000.
3. Bakus, J., Kamel, M., and Carey, T., "Knowledge Sharing Using Software Agent Architecture", poster at the Telelearning network of Centers of Excellence Conference, Montreal, Canada, November 1999.
4. Ayad, H., and Kamel, M., "A Multiagent Approach to Learning User and Group Profiles", poster at the Telelearning Network of Centers of Excellence Conference, 1999.
5. Dang, T., Ghenniwa, H., and Kamel, M., "An Agent Based Architecture for Collaborative Interface to Training Systems", poster at the Telelearning Network of Centers of Excellence Conference, 1998.
6. Kamel, M., Carey, T., Ghenniwa, H., Maamar, Z., and Dang, T., "Agent-based Architecture for Collaborative Telelearning Environment", poster at the Telelearning Network of Centers of Excellence Conference, 1997.
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10. Ismail, M., Kamel, M., "Intelligent Search Strategies in Clustering Analysis", 11th International Congress on Cybernetics, Belgium, 1986.
11. Kamel, M., "Query Inference for Intelligent User Interface", Conference on Intelligent Systems and Machines, Rochester, Michigan, 1985.
12. Kamel, M., "Knowledge Acquisition in Expert Systems", International Conference on Systems Research, West Germany, August 1984.
13. Kamel, M., "Automatic Partitioning of Large Sparse Stiff ODEs", International Conference on Applied and Computational Mathematics, Belgium, July 1984.

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3. M. ElAyadi, Autoregressive Models for text independent speaker identification in noisy environments, 2008, co-supervised with F. Karray.
4. R. Kashef, Cooperative Clustering Model and Its Applications, 2008.
5. A. Ahmadi, Multiple Cooperative Swarms for Data Clustering, 2008, co-supervised with F. Karray.
6. M. Shokri, Oppositional Reinforcement Learning with Applications, 2008, cosupervised with H. Tizhoosh.
7. M. ElAbd, Cooperative Models of Particle Swarm Optimizers, 2008.

8. Hanan Ayad, Voting-Based Consensus of Data Partitions, 2008.
9. Noha Yousri, Novel Methodologies for Discovering Clusters of Arbitrary Shapes Densities in High Dimensional Data with Applications, 2008, co-supervised with M.A. Ismail, University of Alexandria.
10. L. Chen, Multiclassifier System for Classification of Time Series Data, 2007.
11. M. Makrehchi, Feature Ranking for Text Classifiers, 2007.
12. K. Hammouda, Distributed Document Clustering and Cluster Summarization in Peer-to-Peer Environments, 2007.
13. Y. Sun, Cost-Sensitive Boosting for Classification of Imbalanced Data, 2007, co-supervised with A.K.C. Wong.
14. R. Dara, Cooperative Training in Multiple Classifier Systems, 2007.
15. Ju Jiang, A Framework for Aggregation of Multiple Reinforcement Learning Algorithms, 2007.
16. M. Al-Mutairi, Preference Uncertainty and Trust in Decision Making, 2007, co-supervised with K. Hipel.
17. A. Kong, Palmprint Identification Based on Generalization of Iris Code, 2007, co-supervised with D. Zhang.
18. Y. Yang, Clustering Ensemble Algorithm based on Computational Intelligence, 2006, co-supervised with F. Jin, Southwest Jiaotong University, China.
19. N. Alajlan, Multi-Object Shape Retrieval Using Curvature Trees, 2006, co-supervised with G. Freeman
20. K. Shaban, A Semantic Graph Model for Text Representation and Matching in Document Mining, 2006, co-supervised with O. Basir.
21. O. El Badawy, Algorithms for 2D Shape Analysis using Concavity Trees, 2006.
22. S. Rasheed, A Multiclassifier Approach to Motor Unit Potential Classification for EMG Signal Decomposition, 2006, co-supervised with D. Stashuk.
23. I. El Rube, Robust Multiscale Shape Representation and Description, 2005, co-supervised with M. Ahmed.
24. J. Bakus, Feature Selection and Extraction for Text Classification, 2005, co-supervised with T. Carey.
25. M. Hussin, Hierarchical Neural Network Methods for Document Clustering, 2005, co-supervised with M. Nagi, Alexandria University, Egypt.
26. A. Tehrani, Cooperation and Learning in a multiagent Mobile Robot System, 2004.
27. N. Wanas, Feature Based Architectures for Decision Fusion, Co-supervised with F. Karray, 2003.
28. A. Dawoud, Iterative Model-Based Binarization for Document Images, 2002.
29. H. Hichri, Automatic 2D Image Registration using Virtual Circles, 2002.
30. L. Alexandre, Combining Classifiers: Analysis and Application to Medical Data, co-supervised with A. Campilho, University of Porto, Portugal, 2002.
31. L. Hodge, An Adaptive Framework for Sensor Planning in a Coordinated Multi-agent environment, 2001.
32. E. Shakshuki, Cooperative Information Gathering, 2000.
33. D. Calvert, a. Distance based neural Network Model for Sequence Processing, co-supervised with D. Stacey, 1998.
34. M. Elsakka, Adaptive Digital Image Compression Based on Segmentation and Block Classification, 1997.

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36. G. Auda, Co-operative Modular Neural Network Classifiers, 1996.
37. S. Eid Moussa, Cell Formation and Assignment of Parts to Machines in Manufacturing Systems, 1996.
38. M. Moussa, An Experimental Approach to Robotic Grasping using Artificial Neural Networks and Reinforcement Feedback, 1996.
39. H. Ghenniwa, Coordination in Cooperative Distributed Systems, 1996.
40. R. Wylie, Model based Knowledge Organization: Behaviour Preserving Model Transformations, 1995.
41. Y. Quintana, Knowledge Base Organization Using Knowledge Intensive Conceptual Clustering, 1995.
42. A. Lopez-Suarez, Knowledge Reorganization in Rule-Based Systems, 1995.
43. D. Zhang, VLSI Systems Design of ANN for Pattern Recognition Applications, co-supervised with M. Elmasry, 1994.
44. L. Guan, Fast Algorithms for Vector Quantization of Image Data, 1991.
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Masters (M.A.Sc theses unless specified)

1. Yun Qian Miao, 2010, Mobility Models in Mobile Sensors in Surveillance Systems, co-supervised with A. Khamis.
2. A. Abdel-Rahman, A Distributed Multiagent Architecture for Mobile Multirobot Remote Interaction, 2006.
3. A. Khohandani, A Fast Algorithm for Template Matching, M. Eng., 2006, co-supervised with O. Basir.
4. M. Koprnicky, Towards a Versatile System for the Visual Recognition of Surface Defects, co-supervised with M. Ahmed, 2005.
5. B. Gruneir, Multiple agent Architecture for a Multiple Robot System, co-supervised with H. Ghenniwa, 2005.
6. M. Shami, Voiced Segment-Based Recognition of Affective Intents in Speech, 2005.
7. A. Adegortite, Mining Contents of Picture Objects Based on Textual Cues, co-supervised with O. Basir, 2005.
8. Q. Xu, A significant test based feature selection method for the detection of prostate cancer from proteomic patterns, 2004.
9. C. Wong, Viewpoint Evaluation in Camera Planning for Model-based Inspectional Coverage, 2004.
10. C. Bardon, Scalability and Optimality of a Multiagent Sensor Planning System, 2003.
11. S. Kim, Information Fusion in Image Template Matching, co-supervised with H. Tizhoosh, 2003.
12. C. Zhang, Intrusion Detection using Neural Networks, 2003.
13. B. Miner, Hand Gesture Understanding for Interactive Service Robots, U of Guelph, co-supervised with O. Basir, 2002.
14. K. Hammouda, Web Mining: Identifying Document Structure for Web Document Clustering, 2002.
15. H. Ayad, A Multiagent approach to User Profile Learning, 2001.
16. E. Elghoneimy, Clustering of Electromyographic Signals, co-supervised with D. Stashuk, 2000.

17. O. El Badawy, Shape-based Image Database Retrieval, 2000.
18. I. Khalifa, Construction of Geometric CAD Models from Range Data, co-supervised with M. Moussa, 2000.
19. T. Dang, A User-Interface Agent for a Computer-Based Tutoring System, 1998.
20. R. Chanchlani, Software Architecture Design and Recovery Using Partitioning Techniques, co-supervised with K. Ponnambalam, 1998.
21. D. Wigg, Collision Avoidance for Multiple Robots, 1995.
22. A. El-Sawah, Contour Segmentation and Representation using Extracted Linear Circular primitives for Computer Vision Systems, co-supervised with A.K.C. Wong, 1995.
23. H. Bacakoglu, Two-Step Camera Calibration for Dual Camera Photogrammetry, co-supervised with S. Kalayciogly, 1995.
24. F. Ho, Shift of Representation in Robot Task Planning, 1993.
25. D. Batty, A Constructivist Propositional Logic for Automated Knowledge Acquisition, 1992.
26. T. Liu, Algorithms for Forming Part-families and Their Assignment to Machines in Group Technology, 1992.
27. A. Zhao, Extraction of binary Character/Graphics Images with Background Pictures, 1992.
28. H. Ghenniwa, Solving the Assignment Problem in Multiagent Systems, 1990.
29. Q. Tang, Still Frame, Gray Level Image Compression with the Discrete Cosine Transform, 1990.
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31. A Thomas, A Domain Independent Task Planner using Geometric Constraints, 1990.
32. S. Chui, A Comparison of two Soft clustering algorithms, co-supervised with T.E. Unny, 1989.
33. Ed Dickson, Probabilistic Search Strategies, 1987.
34. R. Lemieux, Knowledge Representation for Multiagent Planning, M.A.Sc. project, 1987.
35. Paul Kaufmann, Robot Planning in Uncertain Environments, co-supervised with G. Savage, 1987.
36. Willie Lo, An Intelligent Graph Based Approach to Database Query Translator, 1986.
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38. Husni Mansour, Knowledge Based Office Modeling, Dept. of Management Sciences, co-supervised with A.K.C. Wong, 1985.
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