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PERSONNEL

NAME:	HELAL AL-HAMADI
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	PO Box 5969 Safat, 13060 Kuwait
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SEX:	Male.
NATIONALITY:	Kuwaiti.
LANGUAGES SPOKEN:	Arabic, English and fair French.

PROFESSIONAL AND RESEARCH INTERESTS

- Electric Power System Quality.
- Fuzzy System Modelling.
- Stochastic System Optimization and Kalman Filtering.
- Hardware-software co-design.
- Integer and Linear Programming Modelling.

EDUCATION

Doctor of Philosophy (Ph.D.)   **1988**   Electrical Engineering,
Virginia Polytechnic institute and State University,
Blacksburg, Virginia, USA.

Master of science (M.Sc.)   **1984**   Electrical Engineering,
The University of Michigan, Michigan, Ann Arbor, USA.

Bachelor of Science (B.Sc.)   **1980**   Electrical Engineering, Kuwait University, Kuwait.

PREVIOUS EMPLOYMENT

Kuwait University February 2003 – Current

Associate Professor Information Science Department, College for Women. (2008-Current).
Assistant Professor Information Science Department, College for Women. (2003-2008)

University of Qatar March 1996 – February 2003

Assistant Professor: Duties include teaching undergraduate courses and supervising final year senior projects.

Queensland University of Technology (QUT) AUG. 1991 - JUN. 1995

Lecturer: Duties include teaching undergraduate and postgraduate courses in digital control systems and Unix & C Language, continuing on going research on image processing, and supervising thesis students.
Researcher: involved in image processing projects.   Projects deal with 3-D object recognition using multiple source feature extraction methods.   In particular, designing a vision system for the Numbat mobile robot for manoeuvring inside coal mines (supported by CSIRO), and 3D-object detection using Hough transforms.

Kuwait Institute for Scientific Research (KISR) JAN. 1980 – Aug. 1990

Electrical engineer designing and implementing microprocessor controlled solar house. Also, analysing Kuwait electric power system network using interactive power system graphics package.

Involved in designing optimum controllers for chemical processes in petrochemical plants. Also, involved in designing optimum scheduling of dual water and electricity plants using Lagrangian relaxation techniques.

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TEACHING EXPERIENCE

Kuwait University February 2004 – Current

ISC100	Fundamentals of Personal Computers.	ISC240	Programming and Problem Solving
ISC101	Introduction to Information Systems.	ISC350	Networks and Telecommunications
CFW107	College Algebra	ISC331	Information Systems Theory and Practice
CFW109	Statistics	ISC363	Computer Organization
CFW130	Ethics and Practices	ISC499	Capstone Project`
ISC105	Computers and Society.		

University of Qatar March 1996 – February 2004

ELE200	Electric Circuits.	ELE463	Assembly and Machine level Programming.
ELE201	Electric Circuits. (Non Electrical)	ENG353	Probability and Statistics for Engineers.
ELE231	Electronic Devices and Circuits I.	ENG151	C++ Programming Language.
ELE332	Electronic Devices and Circuits II.	ELE576	Computer Networks.
ELE332	Electronics III	ELE599	Senior Project.
ELE311	Electromagnetic Fields and Lines.		

Queensland University of Technology (QUT) Jan. 1991 - June 1995

Teaching undergraduate and postgraduate courses:

EEB922:	Computer controlled systems.	EEB202:	Electromagnetic.
EEB621:	Advanced control systems.	EEB371:	Electronic devices.
EEP102:	UNIX and C for Engineers.	EEB471:	Electronics II.
EEB101:	Circuit theory & measurements.	EEB722:	Flight control systems.
EEB691:	Concurrent programming.		

Student Supervision: Involved in supervising students doing their research at both undergraduate and master levels.

PROFESSIONAL MEMBERSHIP

- Member, IEEE Computers.
- Member, IEEE Automatic Control.
- Member, the Association of Professional Engineers & Scientists, Australia (APESA).

ACADEMIC LEADERSHIP

Kuwait University:

- Head of the department of Information Science.
- Head of the accreditation Committee of the department of Information Science
- Head of committee: Study the Job opportunities for College for Women.
- Head of committee: Strategic plan for the department of Information Science.
- Member of accreditation and assessment committee for College for Women.
- Member of the Curriculum Committee of the College of Computer Science and Engineering.

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University of Qatar:

- Head Electrical Engineering ABET Committee.
- Member of the College of Engineering ABET Committee.
- Head of College of Engineering Equipment Acquisition Committee.
- University of Qatar Equipment Acquisition Committee.
- University of Qatar Computer Network Steering Committee.
- Establishing Computer Engineering program for girls in the University of Qatar.
- Proposal for establishing Computer and Information Technology program in the Electrical Engineering Department.
- Developing a new curriculum for the Electrical Engineering program.
- Developing a new curriculum for the Computer Engineering program.
- College of Engineering Academic Student Advising Committee.
- Director of the Computer Centre in University of Qatar March 1998 – Sept 1998.

Queensland University of Technology:

- Supervising final year undergraduate and master degree students.
- Committee member for preparing and designing detailed contents of control system courses.

Professional Development:

- Visiting Professor, Department of Electrical Engineering, Chinese University of Hong Kong.

Kuwait University [February 2004 – Current]
Presenting Seminars:

1. SHORT-TERM ELECTRIC LOAD FORECASTING BASED ON KALMAN FILTERING ALGORITHM, April 19, 2004
2. COURSE ASSESSMENT, November 9, 2004
3. ABET CRITERIA FOR COMPUTING PROGRAMS 2004-2005, December 5, 2004

COMPUTER LANGUAGES AND OPERATING SYSTEMS EXPERIENCE

- Java, C++, and C Programming Language.
- UNIX operating system.
- INTEL processor family assembly language
- FORTRAN, BASIC, PASCAL.

INTERESTS AND HOBBIES

Current Affairs, Swimming, Jogging, and Soccer ball.

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PUBLICATIONS

Refereed Conference Papers

[1] H. Al_Hamadi and H. VanLandingham, "Identification and Regulation of Uncertain Plants", Proceedings of the IEEE SouthEastern Conference, 1985.

[2] Al-Hamadi Helal and Van Landingham H.F., "Control of uncertain Plants Using Polynomial Methods", Conference Proceedings - IEEE SOUTHEASTCON A. 1986

[3] H. T. Tsui and H. Al-Hamadi, "A vision system for a mobile robot for coal tunnels", 2nd Singapore International Conference on Image processing, Singapore, September 1992.

[4] H. T. Tsui, H. Al-Hamadi, G. Winstanley and W. Boles, "A vision system for the Numbat mobile robot," Proceedings of Conference of the Australian Coal Association, Brisbane, Australia, June 1992.

[5] W. Boles, H. Al-Hamadi, H. Tsui and G. Winstanley, "A modified Hough Technique for detection of arbitrary curves in images," Proceedings of the IEEE Workshop on Visual Signal Processing and Communications, September 1993.

[6] H. Al-Hamadi, H. T. Tsui and G. Winstanley, "A vision system for a Mobile Robot based on 3D Surface Approximation using polygons of fixed orientation," Proceedings of the IEEE Workshop on Visual Signal Processing and Communications, September 1993.

[7] H. Al-Hamadi and W. Boles, "Detection of arbitrary objects in images using Hough Technique - an efficient approach," Proceedings of the Fourth International Conference on Signal Processing Applications and Technology (ICSPAT '93), San Francisco, 1993.

[8] H. Al-Hamadi and H. T. Tsui, "3D surface approximation using polygons of fixed orientation for a vision system in a mobile robot," Proceedings of the Fourth International Conference on Signal Processing Applications and Technology (ICSPAT '93), San Francisco, 1993.

[9] H. Al-Hamadi " Hough Transform Techniques for Object Recognition". Technical Report, Signal Processing Research Centre, Qeensland University of Technology, Australia, October 1992.

[10] H. Al-Hamadi and G. Winstanley, " 3D segmentation of depth map images for autonomous robot navigation in corridors," Proceedings of the Image and Vision Computing Conference, Auckland, New Zealand, August 1993.

[11] H. Al-Hamadi and W. Boles, " Extended Hough Technique for Arbitrary 3D object detection," Proceedings of the Image and Vision Computing Conference, Auckland, New Zealand, August 1993.

[12] H. Al-Hamadi and G. Winstanley, "A vision system for a mobile robot moving in corridors," Proceedings of the Inaugural Australian and New Zealand Conference on Intelligent systems, Australia, December 1993.

[13] H. Al-Hamadi and W. Boles, "3D objects recognition using Hough Technique," Proceedings of the Inaugural Australian and New Zealand Conference on Intelligent systems, Australia, December 1993.

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[14] H. Al-Hamadi, "Ambiguity resolution to enhance Hough Technique for Arbitrary 3D object detection," Proceedings of the SPRC Workshop on Signal Processing Applications (WoSPA'93), Brisbane, Australia, December 1993.

[15] H. Al-Hamadi, and S. Soliman "Estimating Instantaneous Voltage Flicker Using Kalman Filter And Fuzzy Logic tuning Noise Levels", Proceedings of IASTED International Conference on Power and Energy Systems (EuroPES 2007) in Palma de Mallorca, Spain, August 29-31, 2007.

[16] H. Al-Hamadi, "Electronic outcome-based student portfolios", Proceedings of the 9th Annual Conference on World Wide Web Applications, Johannesburg South Africa, 5-7 September 2007.

[17] H. Al-Hamadi, "Two-Frequency Voltage Flicker Estimation Using Fuzzy Logic", Proceedings of IASTED International Conference on Power and Energy Systems (AsiaPES 2008), Langkawi, Malaysia, April 2-4, 2008.

[18] H. Al-Hamadi, N. Al-Otaibi, and H. Al-Oad "Web-based Student Portfolio: an Activity Theory Collaborative Tool", Proceedings of the 2nd International Computer & Instructional Technologies Symposium, Kusadasi, Turkey, April 16-18 2008.

[19] H. Al-Hamadi, and K. El-Naggar, "Kalman Filter and Fuzzy Logic Estimation of Short Circuit Current Machine Parameters", AIP Conference Proceedings of the 3rd Global Conference on Power Control and Optimization, Gold Coast, Australia, February 2-4 2010.

[20] Al-Hamadi, H.M, "Fuzzy Logic Voltage Flicker Estimation Using Hilbert Transform", International conference on Mechanical engineering and technology (ICMET-London 2011), London, UK, November 2011.

[21] Al-Hamadi, H.M., "Long-term electric power load forecasting using fuzzy linear regression technique" IEEE Power Engineering and Automation Conference (PEAM), Wuhan China, 8-9 Sept. 2011.

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Refereed Journal Papers

[1] H. Al-Hamadi and S. Soliman, "Kalman Filter for Identification of Power System Fuzzy Harmonic Components", Electric Power Systems Research Journal, Vol. 62, No. 3, pp. 241-248, July 2002.

[2] H. Al-Hamadi and S. Soliman, "Short-Term Electric Load Forecasting Based on Kalman Filtering Algorithm with Moving Window Weather and Load Model", Electric Power Systems Research Journal, Vol. 68, No. 1, pp. 47-59, Jan 2004.

[3] H. Al-Hamadi and S. Soliman, "Long-Term/Mid-Term Electric Load Forecasting Based on Short-Term Correlation and Annual Growth", Electric Power Systems Research, Vol. 74, No. 3, pp. 353-361, June 2005.

[4] H. Al-Hamadi and S. Soliman, "Fuzzy Short-Term Electric Load Forecasting using Kalman Filter", IEE Proceedings - Generation, Transmission and Distribution, Vol. 153, No. 2, pp. 217-227, March 2006.

[5] H. Al-Hamadi and S. Soliman, **"**One-year Long-Term Electric Load Forecasting Based on Multiple Regression Models and Kalman Filtering Algorithm", International Journal of Engineering Intelligent System, Vol. 14, No. 2, pp. 87-96, June 2006.

[6] H. Al-Hamadi, K. El-Naggar, "Measurement of Synchronous Machine Parameters Using Kalman Filter Fuzzy Logic Estimator", Elsevier Measurement Journal, Vol. 43, December 2010, pp. 1327-13335.

[7] F. Ali, H. Al-Hamadi, A. Ghoniem, H. Sherali, "Integrated Hardware-Software Codesign for FPGA-Based System Using Mixed Integer Linear Programming", submitted to Journal of Informatica, 2011.

[8] H. Al-Hamadi "Fuzzy Logic Voltage Flicker Estimation Using Kalman Filter", International Journal of Electrical Power and Energy Systems, Volume 36, March 2012, pp. 60-67.

REFERENCES

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