Prof. FARUQ A. AL-OMARI

Professor of Computer Engineering
Computer Engineering Department
Hijjawi Faculty for Engineering Technology
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Education

PhD   *Aug 1998, University of Texas at Arlington, Texas, USA*

Dissertation Title: Performance Issues in Magnetic Tissue Tagging for Echo Planar Imaging.

Emphasis: Magnetic Resonance Imaging (MRI), Digital Image Processing and Pattern Recognition, Medical Image Analysis and Understanding, Bioinformatics, Knowledge and Data Engineering, Computer Vision, Parallel Computing, and Computer Networking

MSc   *Aug 1992, Jordan University of Science and Technology (JUST), Irbid, Jordan*

Thesis Title: *Universal Digital Power Meter.*

Emphasis: Embedded systems, Microprocessor Based Systems, Digital Signal Processing, Data Networking and Communication.

BSc   *Jan 1989, Jordan University of Science and Technology (JUST), Irbid, Jordan*

Major: *Computer Engineering*

Professional Experience

Apr 2012 – Feb 2017   *CEO*
Sabbatical Leave   *Jordanian Universities Network (JUNet), Amman, Jordan*

JORDANIAN UNIVERSITIES NETWORK (JUNET) IS A NONPROFIT COMPANY WITH LIMITED LIABILITY OWNED BY JORDANIAN PUBLIC UNIVERSITIES. IT WAS ESTABLISHED IN 2003 AS A FIRST STAGE OF THE NATIONAL BROADBAND NETWORK (NBN) AND WAS DEDICATED TO SERVING THE HIGHER-EDUCATION SECTOR IN JORDAN WITH THE RIGHT INFRASTRUCTURE AND TECHNOLOGY FRAMEWORK THAT ENHANCES INTER- AND INTRA- CONNECTIVITY ACROSS UNIVERSITIES.

Duties and Responsibilities:
➢   In charge of all administrative, legal, and financial operations of JUNet:

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- ✓ *Establishing a model of operation for JUNet*
- ✓ *Renovating the operation and activities of JUNet in accordance with JUNet vision and strategic plan*
- ✓ *Developing policies and procedures governing JUNet operations*
- ✓ *Collaborating with stakeholders and higher education sector to facilitate quality services to member universities and research centers*
- ✓ *Leading initiatives to cultivate establishing a National Research Gateway, e-Learning culture and environment, and higher education centers of excellence.*
- ✓ *Gearing up the offering of optimized Internet access and software solutions through strategic agreements with service providers.*

Feb 2012 – Apr 2012   *Advisor of the Board of Directors,*
Sabbatical Leave   *Jordanian Universities Network (JUNet), Amman, Jordan*

Duties and Responsibilities:
- ➢ Evaluating the operation of JUNet (2003-2011)
- ➢ Help developing a strategic plan for the operation of JUNet for the coming five years (2012-2016)

Jun 2011 – Jan 2012   *Director of Computer and Information Center,*
Sabbatical Leave   *World Islamic Sciences and Education University (WISE), Amman, Jordan*

Duties and Responsibilities:
- ➢ Overseeing and directing the operations of the Computer and Information Center, which includes but not limited to:
  - ✓ *Developing and maintaining the University administrative computerization process: including Human Resources System, Financing System, Student Information System, and Supplies and Tendering System.*
  - ✓ *Providing and maintaining Internet and Intranet services to faculties, centers, and departments.*
  - ✓ *Providing quality technical support related to all IT hardware and software services to university staff and students.*
  - ✓ *Maintaining and updating WISE Data Center and Computer Servers*
  - ✓ *Monitoring the adherence of all university users to the ICT policy.*
  - ✓ *Maintaining and upgrading the E-Learning system in accordance with WISE regulations and goals.*
  - ✓ *Providing necessary training and consultation to staff and students in fields related to services provided.*
  - ✓ *Maintaining and updating WISE webpage. Performing regular revision to the webpage design-wise and content-wise.*
  - ✓ *Maintaining strong relations with peer universities to boost the level of cooperation and exchange of experience.*
  - ✓ *Maintaining and boosting relations with service providers from outside the university whether from public or private sector and use this relation to the benefit of WISE.*

Jun 2011 – Jan 2012   *Professor, Computer Science Department*
Sabbatical Leave   *Faculty of Computer and Information Technology, WISE, Amman, Jordan*

Duties and Responsibilities:
- ➢ Member of CS Dept. Council
- ➢ Member of the Faculty Council
- ➢ Member of the Faculty Hiring and Promotions Committee

- ➢ Teaching undergraduate courses, among which:
  - ✓ Assembly language programming
  - ✓ Digital logic design
  - ✓ Computer skills

Aug 2008 – Aug 2010   *Dean,*
Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan

Duties and Responsibilities:
- ➢ In charge of all Academic and Administrative operations of the faculty.
  - ✓ *Head of the Faculty Council*
  - ✓ *Member of the Deans Council.*
  - ✓ *Member of the University Council.*
  - ✓ *Head of the Curriculum Development Committee*
  - ✓ *Head of the Faculty Budgeting Committee*
  - ✓ *Head of the Faculty Scientific Research Committee*
- ➢ Major Accomplishments:
  - ✓ *Starting and completing the extension building project for the Faculty (~7500m^2) with a generous contribution from Hisham A. Hijjawi Scientific Foundation (~30%).*
  - ✓ *Sponsoring 26 students to pursue their graduate studies towards PhD in world class universities. By now, most of them are faculty members.*
  - ✓ *Strengthening strategic relations with major industries to accommodate senior faculty students in Curriculum Practical Training.*
  - ✓ *Secured one TEMPUS project to redevelop the wireless communication master's program.*
  - ✓ *Submitted a proposal to establish a Civil and Building Construction Bachelors Program. Now the department is well established with over 1000 students.*

Sep 2006 – Aug 2008   *Vice Dean,*
Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan

Duties and Responsibilities:
- ➢ In charge of the Academic Affairs of the faculty members; including but not limited to promotions, Leaves, …etc.
- ➢ In charge of the Administrative Affairs of the administrative staff of the faculty including engineering, technical, and administration staff.
- ➢ Overseeing the operation of graduate studies and the corresponding curricula development.
- ➢ In charge of the faculty relations and agreements with industrial and business organizations.
- ➢ A member of the Graduate Studies Council representing the Hijjawi Faculty for Eng. Tech.
- ➢ A member of the Faculty Council, Hijjawi Faculty for Engineering Technology
- ➢ Head of the Graduate Studies Committee, Hijjawi Faculty for Eng Tech.
- ➢ Head of the Computerizing and Web Committee, Hijjawi Faculty for Eng. Tech.
- ➢ A member of the Recruitment and Scholarships Committee at the Computer Eng. Dept.
- ➢ A member of the Graduate Studies Committee at the Computer Eng. Dept.
- ➢ A member of the Curriculum Development Committee, Computer Eng. Dept.

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Feb 2004 – Aug 2006   *Chairman,*
Computer Engineering Department
Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan

Duties and Responsibilities:
➢ Overseeing and running the operation of the Computer Engineering Department
➢ A member of the Faculty Council, Hijjawi Faculty for Engineering Technology
➢ A member of the Curriculum Development Committee, Hijjawi Faculty for Engineering Technology.
➢ A member of the Graduate Studies Committee, Hijjawi Faculty for Engineering Technology.
➢ Head of the Graduate Studies Committee at the Computer Eng. Dept.

Feb 2000 – Sep 2000   *Chief Information Officer (CIO)*
King Abdullah University Hospital (KAUH),
Jordan University of Science and Technology, Irbid, Jordan.

Duties and Responsibilities:
➢ Developed a five-year strategic plan for the IT dept. of the hospital
➢ Developed the departmental policies and procedures related to the IT dept.
➢ Developed the organization chart for the IT dept. and job descriptions for all positions in the dept.
➢ Participated in the recruiting process for managerial level as well as non-managerial positions in the dept.
➢ Selected a Healthcare Information System. A tender was announced. I led the technical committee in charge of evaluating the bids in order to select a suitable system to implement in the hospital.
➢ As a CIO, I was a member of the executive staff of the hospital. The executive staff office is in charge of running and managing the hospital activities and monitoring its operations.
➢ Prepared and developed a departmental budget for the fiscal year 2001 as well as a draft budget for the next five years.

Sep 1998 – Now   *Assistant-, Associate-, and Professor of Computer Engineering,*
Computer Engineering Department
Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan

Duties and Responsibilities:
➢ Teaching graduate- and senior-level courses, among which:
  ✓ *Digital Image Processing*
  ✓ *Computer Networks*
  ✓ *Software Engineering*
  ✓ *Operating Systems*
  ✓ *Object Oriented Programming*
  ✓ *Computer System Interfacing*
  ✓ *Computer Hardware Design*
  ✓ *Algorithms & Data Structures*
  ✓ *Advanced Computer Architecture*
  ✓ *Numerical Analysis*
  ✓ *Advanced Microprocessor Systems (graduate level)*
  ✓ *Embedded systems (graduate level)*
  ✓ *Real-time embedded systems (graduate level)*

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- ✓ *Hardware System Design using HDL (graduate level)*
- ➢ Supervising undergraduate students for their graduation projects - Variety of project fields have been tackled, among which:
  - ✓ *Image indexing and retrieval systems*
  - ✓ *Pattern recognition*
  - ✓ *Software design using Java & C\C++*
  - ✓ *WAP servers*
  - ✓ *Routing protocol design and implementation*
  - ✓ *Cryptography and steganography techniques*
  - ✓ *GPS design*
  - ✓ *Database systems*
  - ✓ *Bioinformatics*
  - ✓ *Biomedical image analysis and understanding*
- ➢ Supervised several master-level students in their graduation projects in the Embedded Systems master program.
- ➢ Supervising several students in their masters' theses both inside and outside YU.
- ➢ Co-advisor for a PhD student at Coventry University, Coventry, UK.
- ➢ Member of Master theses defense committees several times inside YU, as well as other universities in Jordan among which Jordan University of Science and Technology (JUST), Al- Albait University, University of Jordan, Philadelphia University and others.

Apr 1998 – Sep 1998   **DSP Lead Engineer**
                                        DNA Enterprises Inc., Richardson, Texas, USA.

Duties and Responsibilities:
- ➢ Participated in the software/firmware development of a commercial switch. An alarm panel was designed to monitor the switch during regular operation. Real time processing of racks temperatures, fans' speeds, and several other alarm conditions were observed. This project involved dealing with 8-bit micro-controller (Intel's 8051), assembly and C\C++ environment.
- ➢ Participated in testing of a generic operating system for the TMS320C6x DSP from Texas Instruments. This project involved lots of C\C++ programming, an intensive code optimization effort on the C and assembly level. The OS was intent to serve as a preliminary tool for DSP designers.

Aug 1997 – Apr 1998   **Software Development Engineer**
                                        Anritsu Company, Richardson, Texas, USA.

Duties and Responsibilities:
- ➢ Participated in the software development of a test box which implements CDMA base station for mobile station testing. This project involved dealing with pSOS RTOS, i960 processor, MC68303 processor and C\C++ environment.
- ➢ Participated in the design of a demodulation RF circuit for the inverse link (mobile-to-base station comm.) for a similar test box. This project involved the design of an AGC circuitry, and CPLD's.
- ➢ Supervised the DSP group (Team Leader), which was working on the development and implementation of DSP measurement algorithms. This requires algorithm understanding and development, implementation in C\C++ and assembly programming and software/hardware interfacing.
- ➢ Attended several TIA/EIA CDMA (IS95, IS98) and TDMA (IS136) standard meeting representing Anritsu Co.

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Aug 1994 – Aug 1997   *Instructor*
Electrical Eng. Dept., University of Texas at Arlington, Texas, USA.

Duties and Responsibilities:
➢ Teaching undergraduate microprocessor systems (Intel 8086\8088 based systems) and digital design courses.
➢ Responsible for the development and supervision of digital logic design laboratories within the Department.

Research Assistant, Electrical Engineering Dept., University of Texas at Arlington in conjunction with the Dept. of Radiology, UTSW Medical Center, Dallas, Texas.

Duties and Responsibilities:
➢ Conducting an inter-disciplinary research in conjunction with the Magnetic Resonance Imaging Center, Southwestern Medical Center, Dallas, Texas

Aug 1992 – Aug 1993   *Instructor*
Computer Eng. Dept., Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid Jordan

Duties and Responsibilities:
➢ Teaching Computer Engineering courses including Digital Design, Computer Maintenance and Microprocessor Systems, Computer Organization and Architecture, Operating Systems (DOS & UNIX), and Database (Ingres).
➢ Lead Engineer involved in establishing and developing the laboratories in the Computer Engineering Department.

Aug 1989 – Aug 1992   *Graduate Teaching Assistant*
Electrical Engineering Dept., Jordan University of Science and Technology (JUST), Irbid Jordan

Duties and Responsibilities:
➢ Assisted in teaching several computer and electronic engineering courses.
➢ Teaching digital design lab, microprocessor programming (MC6800-series assembly language) lab, and microprocessor system design lab (Intel 8086\8088 based systems).

Committees Membership and Other Activities

Nov 2013 – Now   *Member, Board of Trustees, Princess Sumaya University for Technology, Amman, Jordan.*

Feb 2015 – Now   *Member, Assessment Board, Caledonian College of Engineering, Oman*

Feb 2015 – Now   *External Examiner and QA Assessor, Glasgow Caledonian University, Glasgow, UK*

Mar 2012 – May 2015   *Member, MoHESR Strategic Plan Committee (ICT Section)*

Mar 2012 – May 2015   *Member, MoHESR Committee in charge of evaluating MIS systems in public universities*

Oct 2011 – Feb 2017   *Head and member, Technical Advisory Committee, JUNet, Amman, Jordan*

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Oct 2011 – Mar 2014	*Member, Scientific Research Advisory Committee, Higher Council for Science and Technology*
Sep 2011 – Jan 2012	*Member, WISE Restructuring and Administrative Development Committee*
Aug 2006 – Sep 2011	*Member, Yarmouk University Committee for Quality Assurance and Quality Control*
Aug 2006 – Sep 2011	*Member, Yarmouk University Strategic Planning Committee*
Apr 2008 – Apr 2010	*Member, Yarmouk University Central Tendering and Bedding Committee*
Oct 2008 – Jun 2011	*Member, Yarmouk University Restructuring and Reorganizing Committee*
Feb 2004 – Sep 2010	*Member of Board of Directors, Prince Faisal Information Technology Center (PFITC), A joint center between Yarmouk University and King Abdullah II Design and Development Bureau (KADDB)*
Aug 2006 – Sep 2011	*Coordinator, ABET Accreditation Steering Committee, Hijjawi Faculty for Engineering Technology, Yarmouk University.*
Sep 2009 – Sep 2011	*Member of the Board of Directors, Jordanian Design Center, Yarmouk University*

Research Interests

My research interests are in the area of medical image processing and analysis, image and video database indexing and retrieval systems, parallel algorithms for content-based multimedia retrieval, data knowledge & discovery, data clustering and data mining, video abstraction, cryptography and steganography, data security, pattern recognition and machine learning, neural networks and fuzzy logic, and computer vision.

Recent Publications

- M. Al-Jarrah, and F. Al-Omari, "Fast Video Shot Boundary Detection Technique based on Stochastic Model". *Int. J. of Computer Vision and Image Processing*, 6(2):1-17, 2016

- AQ AlHamad, F. Al-Omari, and AQ AlHamad, "Recommendation for Managing Patients' Privacy in an Integrated Health Information Network". *J. Information Technology and Economic Development*, 5(1):47-52, 2014

- I I Matalka, **F. A. Al-Omari**, R M Salama and A H Mohtaseb, "A novel approach for quantitative assessment of mucosal damage in inflammatory bowel disease". *Diagnostic Pathology*, **8**:156, 2013

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- **F. Al-Omari**, O. Al-Khaleel, G. Rayyashi, and S. Ghwanmeh, "*An Innovative Information Hiding Technique Utilizing Cumulative Peak Histogram Regions*", Journal of Systems and Information Technology; 14(3):246-263, 2012

- **F. Al-Omari**, I. Matalka, , M. Al-Jarrah, F. Obeidat, and F. Kanaan, "*An Intelligent Decision Support System for Quantitative Assessment of Gastric Atrophy* ", J. Clinical Pathology ;64:330-337, 2011

- K. Q. Al Hamad, **F. A. Al-Omari**, and A. S. Al Hyiasat, "*The taper of cast post preparation measured using innovative image processing technique*", BMC Oral Health 2010, 10:19 (4 August 2010)

- M. Al-Jarrah, and **F. Al-Omari,** "*Enhancing Large Image Database Indexing and Retrieval Performance through Integrating Database Structure with Image Features*", Int. J. of Intelligent Systems Technologies and Applications, Vol. 9, No. 1, 2010, pp. 15-33 (2010)

- **F. A. Al-Omari**, M. A. Al-Jarrah, and M. M. Omari, "*Hierarchal Spatio-color Image Indexing and Retrieval Based on a Stochastic Model*", Proc. Of 12th Int. Conference on Computer Modelling and Simulation, Cambridge, UK, pp. 239-242, (March 24- 26, 2010)

- **F. Al-Omari**, M. Al-Jarrah, M. Omari, and M. Hayajneh, " Development of a CAD/CAM System for Simulating Closed Forging Process Using Finite Element Method", Int. J. for Computer-Aided Engineering and Software, Vol. 26, No. 3, pp. 302-312 (2009).

- **F. Al-Omari,** N. Al-Fayoumi, and M. Al-Jarrah, "*Image-Mapped Data Clustering: An Efficient Technique for Clustering Large Data Sets*," Int . J. Intelligent Data Analysis, Vol. 12, No. 6, pp. 573-586 (2008).

- I. Matalka, **F. Al-Omari**, M. Al-Jarrah, F. Obeidat, and F. Kanaan "*Image-Based Discriminating Morphological Features for Gastric Atrophy Assessment: A Step to Go Further*"", Int. J. Pathology Research and Practice, Vol. 204, pp. 235-240 (2008).

- **F. Al-Omari**, O. Al-Khaleel, and G. Rayyashi, "HBS: An Efficient Information Hiding Technique". IEEE Transactions on Circuits and Systems for Video, Dec 2010 (submitted)

- O. Al-Jarrah, and **F. Al-Omari**, "*Improving Gesture Recognition in the Arabic Sign Language Using Texture Analysis*", Int. J. Applied Artificial Intelligence, Vol. 21, pp. 11-33 (2007).

- **F. Al-Omari** and M. Al-Jarrah, "*Query by Image and Video Content: A Colored-Based Stochastic Model Approach*," Int. J. of Data and Knowledge Engineering, Vol. 52, pp. 313-332 (2005)

- M. T. Hayajneh, S. .M. Radaideh, F. M. AL-Oqla, and **F. Al-Omari**, "*Reduction of Pendulations in Overhead Cranes Carrying Massive Loads on Long Cables Using A Cable Reeling Technique*", Int. J. of Engineering Simulation, Vol. 6, No. 3, pp. 39-45 (2005).

- **F. Al-Omari** and O. Al-Jarrah, (2004). "*Handwritten Indian Numerals Recognition System Using Probabilistic Neural Networks,*", Int. J. Advanced Engineering Informatics, Vol. 18 pp. 9-16 (2004)

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- **Faruq Al-Omari**, and Nabeel Al-Fayoumi, (2004). "*IMDC: An Image-Mapped Data Clustering Technique for Large Datasets,*" Proc. Int. Conf. on Computational Intelligence, Istanbul, Turkey pp. 286-289, (2004).

- M. Al-Jarrah & **F. Al-Omari**, (2002). "*An Efficient Statistical Content-Based Color Image Indexing and Retrieval,*" Proc., IEEE 1st Int. Conf. on Information Technology and Applications, Australia, 5-135, (2002).

- A. S. Al-Fahoum, **F. Al-Omari,** and M. Al-Jarrah, (2002). "*A New Edge Tracking Mechanism for Quantitative Coronary Analysis,*" Proc., 9th Int. Workshop on Systems, Signals, and Image Processing, Manchester, UK, pp. 566-573, (2002)

- **F. Al-Omari,** (2001). *"Handwritten Indian Numerals recognition System Using Template Matching Approaches* ", Proc. ACS IEEE Int. Conference on Computer Systems and Applications, Beirut, Lebanon June 25-29, 2001, pp 83-90. (2001)

- **F. Al-Omari**, M. Chwialkowski, G. Clarke, and R. Peshock, (1998). "*An Optimized Magnetic Tissue Tagging Sequence for Echo Planar Imaging*", 11th IEEE Symposium on Computer Based Medical Systems, Lubbock, Tx., USA, June 11-14, 1998, pp. 144-150. (1998).

Articles

- **F. Al-Omari** (2005). "*Towards an integrated health information network*" Fakhr Assena'ah Mag. Vol. 2, No. 14 & 15 Feb-Mar 2005 pp. 46-47.

Professional IT Training and Skills

- Participated in the School of Bioinformatics, Cornell University, Ithaca, NY, USA, Nov. 2-8, 2006
- Cisco Certified Network Associate, Cisco Certified Associate Instructor (CCNA, CCAI): Instructor at YU-Cisco Regional Academy, Academy Asset Manager.
    - ✓ Attended training and obtained certification at University of Birmingham, UK, 2001
- Microsoft Certified System Engineer (MCP, MCSE+I), Microsoft Certified Trainer (MCT): Instructor at Microsoft IT Academy, YU.
    - ✓ Attended training and obtained certification at STS, Jordan, 1999.

Memberships

- Member, IEEE
- Member, Computer Society

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Available upon request.