

Dr Nijad Al-Najdawi

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Researchgate Profile: https://www.researchgate.net/profile/Nijad_Al-Najdawi

Google Scholar Profile: https://scholar.google.com/citations?user=A4_ORXQAAAAJ&hl=en

Biography

Dr Nijad Al-Najdawi, received his B.Sc. (hons.) in computer science from Mu'tah University, Jordan in March 1999. In December 2003, he obtained his MSc in Multimedia Systems from the Department of Computer Science at Loughborough University, England. Dr. Al-Najdawi joined the Digital Imaging Research Group at Loughborough University and obtained his PhD in 2006 in Machine Vision and Autonomous Systems. In June 2006 Dr. Al-Najdawi has been awarded a Post-Doc (Research Associate) position at the Department of Electronics and Electrical Engineering at Loughborough University. In 2008, he was appointed as an Assistant Professor of Computer Science at Al-Balqa Applied University. In 2013, Dr Al-Najdawi has been promoted to the rank of Associate Professor and was appointed as the head of Computer Science Department for two years. Dr. Al-Najdawi is currently the Dean of Prince Abdullah Bin Ghazi Faculty of Information Technology since February 2016 and the Director of the Computer Centre at Al-Balqa Applied University. Dr. Al-Najdawi is an active member in many academic and industrial organizations; in addition, he serves as a member in many international scientific journals. Dr. Al-Najdawi has been awarded many research grants and international awards during the past few years.

EDUCATION AND ACADEMIC QUALIFICATIONS:

- **BSc. in Computer science-** Mu'tah University, Jordan, March 1999.
- **MSc. in Computer Science** (Multimedia and Internet computing) - Loughborough University, U.K, December 2003.
- **PhD in Computer science** (Machine Vision and Autonomous Systems) – Loughborough University, UK, September 2006.

CAREER SUMMARY:

- *Al-Balqa Applied University, Jordan, February 2016- until now*
Position: **Dean of Prince Abdullah Bin Ghazi Faculty of Information Technology.**
Director of Computer Centre.
- *Al-Balqa Applied University, Jordan, September 2015-February 2016*
Position: **Deputy Dean**
Faculty: Prince Abdullah Bin Ghazi Faculty of Information Technology.
- *Al-Balqa Applied University, Jordan, September 2013- September 2015.*
Position: **Head of Computer Science Department**
Faculty: Prince Abdullah Bin Ghazi Faculty of Information Technology.
- *Al-Balqa Applied University, Jordan, September 2008- September 2010*
Position: **Assistant Dean for planning development and quality assurance**
Faculty: Prince Abdullah Bin Ghazi Faculty of Information Technology.

- *Loughborough University, Leicestershire-UK, November 2006, January 2008*
Position: **Post-Doctorate (Research Associate)**
Faculty: Electrical and Electronic Engineering Faculty.
- *Al-Gulf Company for Electronic Industry, Riyadh-Kingdom of Saudi Arabia September 1999 - June 2002*
Position: **Head of Technical Support Department**

ACADEMIC SUPPORT FOR POST-GRADUATE EDUCATION

Since 2008, Dr. Al-Najdawi has supervised 18 master students' dissertations at the computer science department, Al-Balqa Applied University:

<i>MSc thesis by</i>	<i>Thesis entitled</i>	<i>Year</i>
Amani Arabiat	<i>Image Encryption Based on Multiple Transformation methods</i>	<i>Feb, 2017</i>
Hamzeh Dmour	<i>Automated system for Ear-mark and Ear-print recognition using Digital image processing</i>	<i>Dec, 2016</i>
Safa Olwan	<i>Illumination and Shading Modelling Algorithm for Computer Graphics Application</i>	<i>July 2016</i>
Ahmad Shaheen	<i>Digital Image Encryption Based on the Karhuenen- Loeve Transform</i>	<i>May 2015</i>
Abdelelah Abu Hazeem	<i>Supervised Manifold Learning Algorithm for Face Image Retrieval</i>	<i>May 2015</i>
Fatmah Yasjeen	<i>A New Texture Mapping Algorithm for computer graphics applications</i>	<i>Mar, 2014</i>
Mutaz Saad	<i>Tumour Segmentation and Classification using a novel NN-based algorithm</i>	<i>Aug, 2014</i>
Abdullah Al Zaqepah	<i>A Fast and Accurate AI based method for object Detection</i>	<i>July 2014</i>
Ahmad Hadidi	<i>A Chaos- based Algorithm for Image Cryptography</i>	<i>Aug, 2013</i>
Mo. Noor Al-Najdawi	<i>Pel-Recursive Motion Estimation Technique</i>	<i>July 2012</i>
Najla Qawasmeh	<i>Offline Arabic Handwriting Recognition</i>	<i>May 2012</i>
Fadi Odeh,	<i>Associative Classification Mining Based on Naive Bayesian Method</i>	<i>April 2012</i>
Abed Alhameed Jaber	<i>Hip Congenital Dislocation Detection using DIP Techniques</i>	<i>July 2011</i>
Mariam Beltwai	<i>A Novel framework for Breast Cancer detection</i>	<i>July 2011</i>
Hussam Mutawe	<i>Integrated People Tracking System Using Colour and Pattern Recognition</i>	<i>May 2011</i>
Asma Abu-Roman	<i>Vehicle detection and classification methods</i>	<i>Mar, 2010</i>
Yusuf Abu-Sa'dah	<i>Gray-Scale Image colorization approach</i>	<i>Mar, 2010</i>
Ala Saleh	<i>Hybrid edge detection methods for fast object segmentation</i>	<i>Mar, 2010</i>

In addition, during the last 10 years Dr. Al-Najdawi has supervised 19 Master degree (MSc) graduation projects (Comprehensive track) at the computer science department, Al-Balqa Applied University:

<i>MSc Project by</i>	<i>Project title</i>	<i>Year</i>
Hamzeh Al-Dabbas	<i>Digital Image watermarking</i>	2008
Moath Al-Ali	<i>Electronic Election System using figure prints</i>	2008
Morat Khamash	<i>A lossless image compression technique</i>	2008
Qassim Awad	<i>Number plate recognition algorithm</i>	2008
Tareq Hadadeen	<i>Novel digital zooming Algorithm</i>	2009
Ala Khateeb	<i>Advanced Image Processing Toolkit</i>	2009
Batoul Masri	<i>Hand signature recognition system</i>	2009

Hussam. Marashdeh	<i>online Arabic hand recognition system</i>	2009
Hussam Rashaydeh	<i>Finger print recognition Algorithm</i>	2009
Mostafa Qudah,	<i>A Colour Object Segmentation Algorithm</i>	2009
Naser Zyadat	<i>Automatic digital achieving system</i>	2010
Wael Etaiwi	<i>A Simplified toolkit for image processing applications</i>	2010
Mojahed jarad	<i>Signature recognition system using neural networks</i>	2010
Wael Mazaydeh	<i>Automated achieving System</i>	2010
Mohammah Shibli	<i>Automated Patient Card System</i>	2010
Naser Oqaili	<i>Building heat Loss detection using thermal images</i>	2011
Safwan Abu-Alrish	<i>Database Transmission over Bluetooth technology</i>	2011
Jehad Al-Jundi	<i>Arabic Handwritten Recognition System Using a Novel Feature Extraction and Classification Techniques</i>	2011
Hiba Mansoor	<i>Digital Image compression algorithm</i>	2014

Since 2008, Dr. Al-Najdawi has been a member in the following examination committees:

- Ahmad Assaf, “*Image Classification based on Enhancement of Local Binary Pattern*”, January 2018, supervised by: Prof. Mothaffar Al Jarrah, Middle East University
- Alaa Al Ansarey, “*Amper Detection and Image Recovery based on Watermarking Techniques*”, 11/2016, supervised by Dr. Hazem Al-Otum, Jordan University of Science and Technology.
- Zaina Talaat, “*Security enhancement of image steganography using embedded integrity features*”, May 2016, supervised by: Prof. Mothaffar Al Jarrah, Middle East University.
- Zaid Al Taey, “*Statistical steg-analysis detector model for 8-bit depth images*”, April 2016, supervised by: Prof. Mothaffar Al Jarrah, Middle East University,
- Banan Al-hawari, “*Discovering Web Services Based on the Semantics of their Capabilities*”, December/2013, supervised by: Dr. Thaeer Khdour, Computer Science Department, Al-Balqa Applied University.
- Alaa- Al-Ghazo, “*Building a context Image Based Search Engine Using Multi Clustering Technique*”, 12/2012, supervised by: Dr. Hasan Al-Rashaideh, Computer Science Department, Al-Balqa Applied University.
- Sara Al-hashimy, “*Lossless Image Compression Technique Using Combination Methods*”, 2/2012, supervised by: Dr. Abed Alsalam Arabiat, Computer Science Department, Al-Balqa Applied University.
- Lubna Abed Al-jawad,” *Voice recognition Using Neural Networks and Fuzzy Logic*”, 5/2012, supervised by: Dr. Khalaf Khatatneh, Computer Science Department, Al-Balqa Applied University.
- Haitham Eial-Awwad, “*A Robust Watermarking Algorithm based on Two Dimensional Cellular Automata*”, 5/2012, supervised by: Dr. Basin Rifaie, Computer Science Department, Al-Balqa Applied University.
- Sameer Al-Jubeh, “*A Dynamic Rotation Cipher Algorithm for Encryption and Decryption*”, 1/2010, supervised by: Dr. Mohammad Hunaity, Computer Science Department, Al-Balqa Applied University.
- Hind hamadeen, “*Using More Dijkstra’s Algorithm with Multi-Agent System to find Shortest Path over Network Graphs*”, 12/2008, supervised by: Dr. Khalaf Khatatneh, Computer Science Department, Al-Balqa Applied University.
- Khaled Odeh, “*Enhancing Security over Mobile Systems*”, 5/2008, supervised by: Dr. Basim Rifaie, Computer Science Department, Al-Balqa Applied University.

Teaching the following Master degree (MSc) courses at the Computer Science Department, BAU, Florida Atlantic, and DePaul University:

- Digital Image Processing course –Al-Balqa Applied University
- Computer Graphics course–Al-Balqa Applied University

- Artificial Intelligence course–*Al-Balqa Applied University*
- Computer Algorithms course–*Al-Balqa Applied University*
- Machine Vision and Autonomous Systems course- *Depaul University*
- Geographic Information Systems- *Depaul University*
- Remote Sensing and Image Processing-*Florida Atlantic University*

ACADEMIC SUPPORT FOR UNDER-GRADUATE EDUCATION

- Supervising many groups of undergraduate "*final projects*" in the computer science, software engineering, and computer information system departments.
- Supervising many groups of undergraduate "*field training*" students in the computer science, software engineering, and computer information system departments.

Teaching the following bachelor degree (BSc) courses at the computer science department, BAU.

- Computer graphics
- Multimedia Systems
- Image Processing and Machine Vision
- Remote Sensing Systems
- Video Coding (Special Topics in Computer Information Systems)
- Internet of Things (Special Topics in Computer Science)

RESEARCH AREAS

- Video coding, Image Processing, Motion Estimation, Objects Tracking and Recognition, Shadow detection, Cryptography, Pattern detection, Remote Sensing.

ACADEMIC REASEARCH MEMBERSHIPS

- Member of the reviewer's panel of the IEEE Transactions on Circuits and Systems for Video Technology
- Member of the reviewer's panel of the IET Computer Vision Journal
- Member of the reviewer's panel of the IET Image Processing Journal
- Member of the reviewer's panel of the Elsevier Pattern Recognition letters
- Member of the reviewer's panel of the Elsevier Digital Signal Processing Journal
- Member of the reviewer's panel of the Elsevier Applied Soft Computing Journal
- Member of the reviewer's panel of the Elsevier Computer Methods and Programs in Biomedicine Journal
- Member of the reviewer's panel of the Elsevier Information Sciences Journal
- Member of the reviewer's panel of the Elsevier Medical Imaging and Graphics Journal
- Member of the reviewer's panel of the Springer Computer science and information technology journal
- Member of the Jordanian higher council of science committee

ACADEMIC COMMITTEES

Elected memberships

- *Elected representative of the computer science department committee at Prince Abdullah Ben Ghazi Faculty of Information Technology Council, Al-Balqa Applied University 2012/2012.*
- *Elected representative of the computer science department in higher education committee at the faculty higher education committee, Al-Balqa Applied University 2012/2013.*
- *Elected representative of Prince Abdullah Ben Ghazi faculty of Information Technology at the University council, Al-Balqa Applied University. 2012/2013.*

Committee Memberships

- Member of the *University Scientific Research Council*, Al-Balqa Applied University, 2016/2017/2018.
- Member of the *University Conferences Council*, Al-Balqa Applied University, 2017/2018.
- Member of the *University Study plans committee*, Al-Balqa Applied University, 2015, 2016.

- Member of the *graduate studies committee* at the computer science department, Al-Balqa Applied University 2008/2009/2010/2011/2012/2013/2014/2015.
- Member of the *graduate studies committee* at prince Abdullah Bin Ghazi Faculty of Information Technology, Al-Balqa Applied University 2012/2013/2014/2015.
- Member of the *academic conferences and scientific research committee* at prince Abdullah Bin Ghazi Faculty of Information Technology, Al-Balqa Applied University 2012/2013.
- Member of the *Accreditation and Quality Assurance committee* at the department of computer science 2009/2010/2011/2012/2013.
- Member of *Al-Balqa University Higher Committee for Disciplining Students*, Al-Balqa Applied University, 2010/2011/2012.

SELECTED PUBLICATIONS:

- Tomaszewski, B., Martin, J.-L., Omondi, I., **Al-Najdawi, N.**, Tedmori, S. & Hamad, Y., "Using Geographic Information Systems (GIS) in Za'atari Refugee Camp, Jordan for Refugee Community Information Management and Mobilization: The RefuGIS Project," *IEEE Global Humanitarian Technology Conference*, 2017 San Jose, California, USA. pp. 817-826, 2017.
- **N.Al-Najdawi**, S.Tedmori, O. Alzubi, O. Dorgham and J.Alzubi, "A Frequency Based Hierarchical Fast Search Block Matching Algorithm for Fast Video Communication," *International Journal of Advanced Computer Science and Applications*, vol. 7, no. 4, pp. 447-455, 2016.
- Tomaszewski, B., Tibbets, S., Hamad, Y. & **Al-Najdawi, N.** 2016. "Infrastructure Evolution Analysis via Remote Sensing in an Urban Refugee Camp - Evidence from Za'atari," *Elsevier Procedia Engineering Journal*, vol. 159, pp 118-123, 2016.
- Alzubi O., Chen T., AlzubiJ., Rashaideh H., **Al-Najdawi N.**, "Secure Channel coding schemes based on Algebraic-Geometric Codes over Hermitian Curves," *Journal of Universal Computer Science*, vol. 22, no. 4, 2016.
- **N. Al-Najdawi**, A. Abu-Roman, S. Tedmori, M. Al-Najdawi, "An Adaptive Approach for Real-Time Road Traffic Congestion Detection Using Adaptive Background Extraction," *International Arab Journal of Information Technology*, vol. 13, no. 6b, pp 1075-1083, 2016.
- **N. Al-Najdawi**, M. Biltawi, S. Tedmori, "Mammogram image visual enhancement, mass segmentation and classification," *Elsevier Applied Soft Computing*, vol. 35, Pages 175–185, 2015.
- S.Tedmori, **N. Al-Najdawi**, "Image cryptographic algorithm based on the Haar wavelet transform," *Elsevier Information Sciences*, " vol. 269, pp. 21-34, 2014.
- **N. Al-Najdawi**, M. Noor Al-Najdawi, S. Tedmori, "Employing a Novel Cross-Diamond Search in a Modified Hierarchical Search Motion Estimation Algorithm for Video Compression," *Elsevier Information Sciences*, vol. 268, pp. 425-435, 2014.
- **N. Al-Najdawi**, "A Concealed Ammo Detection System for Passengers Luggage Screening," Proceedings of the International Conference on Multimedia Computing and Systems, Morocco, pp. 159 - 164, April 2014.
- M. Jarad, **N. Al-Najdawi**, S. Tedmori, "Offline Handwritten Signature Verification System Using a Supervised Neural Network Approach," In *Proceedings of the IEEE 6th International Conference on Computer Science and Information Technology*, pp. 189-195, ISBN:987-1-4799-3999-2, March 2014.
- F. Odeh, **N. Al-Najdawi**, "ACNB: Associative Classification Mining based on Naïve Bayesian Method," *International Journal of Information technology and Web Engineering*, vol. 8, no.1, pp 23-35, 2013.
- Y. Sadah, **N. Al-Najdawi**, S.Tedmori, "Exploiting Hybrid Methods for Enhancing Digital X-Ray Images," *International Arab Journal of Information Technology*, vol. 10, no. 1, pp 28-35, January 2013.

- M. Beltawi, **N.Al-Najdawi**, S. Tedmori, "Mammogram Enhancement and Segmentation Methods: Classification, Analysis, and Evaluation," *the 13th international Arab Conference on Information technology*, pp 477-485, December 2012.
- **N.Al-Najdawi**, "A Novel Hierarchical Search Algorithm for Video Compression," *The 17th international conference on Advances in computer and electrical Engineering*, pp 46-50, November 2012.
- S.Tedmori, **N. Al-Najdawi**, "Lossless Image Cryptography Algorithm Based on Discrete Cosine Transform," *International Arab Journal of Information Technology*, vol. 9, no. 5, pp 471-478, September 2012.
- **N.Al-Najdawi**, H.E.Bez, J. Singhai, E.A.Edirisinghe, "A survey of cast shadow detection algorithms," *Elsevier Pattern Recognition Letters*, vol. 33, no. 1, pp 752-764, January 2012.
- S.Tedmori, **N.Al-Najdawi**, "Hierarchical Stochastic Fast Search Motion Estimation Algorithm," *Journal of IET Computer vision*, vol. 6, no. 1, pp 21-28, January 2012.
- **N. Al-Najdawi**, S.Tedmori, H.E.Bez, E.A.Edirisinghe, "An Automated Real-Time People Tracking System Based on KLT Features Detection," *International Arab Journal of Information Technology*, vol. 9, no. 1, pp 100-107, January 2012.
- **N. Al-Najdawi**, "Introduction to visualization Using Game Engines," *AHRC ICT Methods Network Expert Workshop, From Abstract Data Mapping to 3D Photorealism: Understanding Emerging Intersections in Visualization Practices and Techniques*, 19 June 2007, Birmingham Institute of Art and Design.
- **N. Al-Najdawi**, "Web-based visualization - Accessibility and Usability," *AHRC ICT Methods Network Expert Workshop, From Abstract Data Mapping to 3D Photorealism: Understanding Emerging Intersections in Visualization Practices and Techniques*, 19 June 2007, Birmingham Institute of Art and Design.
- **N.Al-Najdawi**, H.E.Bez, E.A.Edirisinghe, "A novel approach for cast shadow modelling and detection," *In proceedings of The IET conference on visual Information Engineering*, pp 553-558, September, 2006, India.
- **N. Al-Najdawi**, H.E.Bez, E.A.Edirisinghe, "A Novel Hypothesis For Cast Shadow modelling And Detection For Objects Tracking And Recognition," *In Proceedings of the IASTED Visualization Imaging and Image Processing conference (VIIP2006)*, 2006, Spain.
- **N.Al-Najdawi**, E.A.Edirisinghe, H.E.Bez, "A Study Of The Use Of Kalman Filtering In Motion Estimation Of Video," *Internal Report- No. 1092, Department of computer Science September, Loughborough University*, 2005.
- Bez, H.E., Edirisinghe, E.A. and **Al-Najdawi**, N., "Shadow Modelling and Detection, Part 2 - Moving Shadow Detection for Video Processing," *Internal Report- No. 1086, Department of computer Science September, Loughborough University*, 2005.
- Bez, H.E., Edirisinghe, E.A. and **Al-Najdawi**, N., "Shadow Modelling and Detection, Part 1 - Shadow Modelling," *Internal Report- No. 1085, Department of computer Science September, Loughborough University*, 2005.
- **N.Al-Najdawi**, E.A.Edirisinghe, H.E.Bez, "Real-time object tracking based on a limited, discontinuous feature set," *In Proceedings of the IASTED Visualization Imaging and Image Processing conference(VIIP2005)*, pp 645-649 September 2005, Benidorm, Spain.
- **N.Al-Najdawi**, I.A. Duncumb, E.A.Edirisinghe, "Mpeg-4 encoding of digital audio programs," *In Proceedings of the IASTED Visualization Imaging and Image Processing conference (VIIP2004)*, 7-9 September 2004, Marbella, Spain.
- **N.Al-Najdawi**, I.A. Duncumb, E.A.Edirisinghe, "Synchronising variable length audio clips with video content in Mpeg-4 using markers defined by XMT," *In proceedings of the Prep2004 conference*, 6-10 April 2004, UK.

AWARDS

- *Distinguished academic supervisor award at Al-Balqa Applied University/ Faculty of Higher Education / July 2013.*
- *Prince Sabah Jaber Al-Ahmad Al-Sabah second award for best research in higher education, Jordan University, April 2014.*
- *Distinguished Researcher award at Al-Balqa Applied University, August 2017.*

REFERENCES:

References are available upon request