Brief Curriculum Vitae

Dr. Al-Kadi is a Professor of Computational Vision and Machine Intelligence at the University of Jordan (Amman, Jordan). Previously he was a Fulbright Distinguished Scholar at Yale University (New Haven, USA) and a Visiting Professor at the Swiss Federal Institute of Technology - Lausanne (Geneva, Switzerland). He was also a Postdoctoral Research Fellow at the Institute of Biomedical Engineering at the University of Oxford (Oxford, UK), and a Research Scientist at the Biomedical Imaging group within the Centre for Vision, Speech and Signal Processing at the University of Surrey (Guildford, UK).

Personal information

Name	**Omar Sultan AL-KADI**
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Current Position

Professor of Computational Vision & Machine Intelligence

Work experience

Dates	Dec 2020 - present
Position held	Full Professor at AI Department (University of Jordan)
Dates	Sep 2020 – Oct 2022
Position held	Department Chair (University of Jordan)
Dates	Sep 2017 – Jun 2018
Position held	Fulbright Distinguished Scholar (Yale University)
Dates	Jul 2015 – Jul 2016
Position held	Visiting Professor (Swiss Federal Institute of Technology - Lausanne)
Dates	Nov 2014 – Dec 2020
Position held	Associate professor (University of Jordan)
Dates	Jun 2013 - Apr 2015
Position held	Postdoctoral research fellow (University of Oxford)
Dates	Sep 2012 - Jun 2013
Position held	Department Chair (IT Dept. - University of Jordan)
Dates	Sep 2011 - Jun 2013
Position held	Advisor of video surveillance system technical committee (University of Jordan)
Dates	Jun 2011 - Sep 2011
Position held	Researcher Scientist (University of Surrey)

Dates	Jan 2010 - Nov 2014
Position held	Assistant professor (University of Jordan)
Dates	Jan 2006 - Jan 2010
Position held	Research Assistant (University of Sussex)

Taught courses

(Complete list of taught courses can be found here)

Computer Vision	Computer Vision (UG), Data Visualization (UG), Digital Image Processing (UG), Document Analysis & Recognition (UG), Computer Graphics (UG)
Web Programming	Web Application Development – XHTML, CSS & JavaScript (UG), Advanced Web Programming – PHP (UG), Server Programming – ASP.NET (UG), Web Data Visualization (PG)
Cyber Security	Information Security & Privacy (UG), Computer Control and Network Security (UG), Web Application Security (PG). (Certified Palo Alto Networks Cybersecurity Academy Instructor)
Maths	Linear Algebra (UG), Discrete Mathematics (UG)
Fundamentals	Data Science (UG), Information Technology Fundamentals (UG), Research Methodology (PG)

Education

Dates	Jan 2006 - Jan 2010
Qualification awarded	Doctor of Philosophy (PhD) in Biomedical Engineering
University	University of Sussex - School of Informatics and Engineering - UNITED KINGDOM
Dates	Feb 2002 - Nov 2003
Qualification awarded	Master of Science (MSc.) in Information Technology
University	University of Canberra - School of Information Science and Engineering - AUSTRALIA
Dates	Sep 1996 - Jun 2001
Qualification awarded	Bachelor of Science (BSc.) in Systems and Biomedical Engineering
University	Cairo University - Faculty of Engineering - EGYPT

Research

(More information can be found at my research group)

Funded projects

Early warning anti-riot detection system (E-WARD)
Distributed image processing system for medical applications
Real-time moving object tracking in video scenes acquired in outdoor environments
Computer-aided diagnosis System for Planning Radiotherapy Treatment of Brain Tumors

Publications

My research interests include computational imaging (texture analysis, image classification and segmentation), machine intelligence, deep learning and pattern recognition.

Selected publications (**primary author only**, complete list at my Google Scholar profile)

O. S. Al-Kadi, R. A. Al-Emaryeen, S. Al-Nahhas, I. A. Almallahi, R. Braik, W. Mahafza, "Empowering brain cancer diagnosis: harnessing artificial intelligence for advanced imaging insights," *Reviews in the Neurosciences*, vol. 35(4), 2024, pp. 399-419, 2024.

Omar S. Al-Kadi, "Spatio-Temporal Segmentation in 3D Echocardiographic Sequences using Fractional Brownian Motion," *IEEE Transactions on Biomedical Engineering*, vol. 67(8), pp. 2286-2296, 2020.

O. S. Al-Kadi, "Prediction of FDG-PET stage and uptake for non-small cell lung cancer on non-contrast enhanced CT scans via fractal analysis," *Clinical Imaging*, vol. 65, pp. 54-59, 2020.

Omar S. Al-Kadi, Allen Lu, Albert J. Sinusas and James S. Duncan, "Stochastic Model-Based Left Ventricle Segmentation in 3D Echocardiography Using Fractional Brownian Motion," *in International Workshop on Statistical Atlases and Computational Models of the Heart*, Spain, pp. 77-84, 2018.

O. S. Al-Kadi, "Fractals for Biomedical Texture Analysis," *Biomedical Texture Analysis: Fundamentals, Tools and Challenges*, London: Academic Press, pp. 131-160, 2017.

O. S. Al-Kadi, "A Gabor Filter Texture Analysis Approach for Histopathological Brain Tumor Subtype Discrimination," *ISESCO journal of Science and Technology*, vol. 12(22), pp. 25-32, 2017.

O. S. Al-Kadi, D. Van De Ville and A. Depeursinge, "Multidimensional Texture Analysis for Improved Prediction of Ultrasound Liver Tumor Response to Chemotherapy Treatment," in *19th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Greece, pp. 619-626, 2016.

O. S. Al-Kadi, Daniel Y.F. Chung, Constantin C. Coussios, J. Alison Noble "Heterogeneous Tissue Characterization Using Ultrasound: A Comparison of Fractal Analysis Backscatter Models on Liver Tumors," *Ultrasound in Medicine & Biology*, vol. 42(7), pp. 1612-1626, 2016.

O. S. Al-Kadi and A. Di Ieva, "Histological fractal-based classification of brain tumors" in *The Fractal Geometry of the Brain*, New York: Springer-Verlag, pp. 371-391, 2016.

O. S. Al-Kadi, "Multiscale Nakagami parametric imaging for improved liver tumor localization," in *IEEE International Conference on Image Processing (ICIP)*, USA, pp. 3384-3388, 2016.

O. S. Al-Kadi, Daniel Y.F. Chung, Robert C. Carlisle, Constantin C. Coussios, J. Alison Noble, "Quantification of ultrasonic texture intra-heterogeneity via volumetric stochastic modeling for tissue characterization," *Medical Image Analysis*, vol. 21(1), pp. 59-71, 2015.

O. S. Al-Kadi, "A Multiresolution Clinical Decision Support System Based on Fractal Model Design for Classification of Histological Brain Tumours," *Computerized Medical Imaging and Graphics*, vol. 41, pp. 67-79, 2015.

Omar Al-Kadi, Osama Al-Kadi, R. Al-Sayyed, J. Alqatawna, "Road scene analysis for determination of road traffic density," *Frontiers of Computer Science*, vol. 8(4), pp. 619-628, 2014.

O. S. Al-Kadi," Supervised texture segmentation: a comparative study," in *IEEE Jordan Conf. on Applied Electrical Engineering and Computing Technologies*, Jordan, 2011.

O. S. Al-Kadi, "Texture measures combination for improved meningioma classification of histopathological images," *Pattern Recognition,* vol. 43, pp. 2043-2053, 2010.

O. S. Al-Kadi, "Assessment of texture measures susceptibility to noise in conventional and contrast enhanced computed tomography lung tumour images," *Computerized Medical Imaging and Graphics*, vol. 34, pp. 494-503, 2010.

O. S. Al-Kadi, "A fractal dimension based optimal wavelet packet analysis technique for classification of meningioma brain tumours," in *IEEE Int. Conf. on Image Processing*, Egypt, 2009.

O. S. Al-Kadi and D. Watson, "Texture Analysis of Aggressive and non-Aggressive Lung Tumor CE CT Images," *IEEE Transactions on Biomedical Engineering,* vol. 55, pp. 1822-1830, 2008.

O. S. Al-Kadi and D. Watson, "Susceptibility of texture measures to noise: an application to lung tumor CT images," in *8th IEEE Int. Conf. on BioInformatics and BioEngineering,* Greece, 2008.

O. S. Al-Kadi, "Combined statistical and model based texture features for improved image classification," in *4th Int. Conf. on Advances in Medical, Signal & Information Processing*, Italy, 2008.

Additional Information

Membership of professional organisations

Senior Member of the following organisations and societies: Institute of Electrical and Electronic Engineers (IEEE), Engineers Australia (EA), Jordan Engineers Association (JEA), and the IEEE Engineering in Medicine and Biology Society (EMBS).

Social skills and competences

Participating in the following programmes and activities:
International student ambassador (2002) University of Canberra, Canberra, Australia.
Enterprisers, Judge Business School (2008) University of Cambridge, Cambridge, UK.

Technical skills and competences

Computer interfacing and microcontroller

Certificates and competences

Palo Alto Networks Authorized Cybersecurity Academy Instructor
IEEEXtreme programming competition proctor
IEEE technical English Instructor