

CURRICULUM VITAE

Name: Ahmed Bouridane
Nationality: British
Current Position: Professor of Machine Intelligence
Degrees: BSc Hon. (Algiers), MPhil (Newcastle Upon Tyne), PhD (Nottingham), SMIEEE
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H-Index: 44 (January 2023)

Other Languages: French (fluent: Reading/Writing/speaking) and Arabic (fluent: reading/writing/speaking)

Google Scholar: <https://scholar.google.co.uk/citations?user=ruqc1gwAAAAJ&hl=en&oi=ao>

QUALIFICATIONS

September 1977- June 1982: MEng: University of Algiers (ENPA)

October 1986-August 1988: MPhil degree: College of Engineering, the University of Newcastle Upon Tyne (UK).
Title of Thesis: "CMOS VLSI Circuits for the Fermat Number Transform Implementation"

January 1989-February 1992: PhD degree: Department of Electrical & Electronic Engineering, the University of Nottingham (UK).
Title of Thesis: "N-Tuple based Image Analysis using Transputers"

EMPLOYMENT

March 1992-March 1993: Post Doctoral Research Assistant, Marmara Research Centre, the Turkish Scientific Research Council (Gebze, Turkey)
Work carried out: Setting-up an Image Processing/Vision Group
Training of 8 researchers at Master level in Computer Vision

March 1993-March 1994: Post-Doctoral Research Assistant, Department of Computer Science, The University of Nottingham (UK)
Work carried out: Investigation of the use of information theory principles in Pattern Recognition problems

March 1994-November 1994 Head of Software Advanced Techno-Electronics Ltd., Nottingham (UK)
Duties: Responsible for the Development of a range of software for Access control and Telesurveillance Applications

November 1994- September 2009 Reader (since October 2000) in Computer Science School of Electronics, Electrical Engineering and Computer Science Queen's University Belfast

October 2009 – August 2021 Professor of Machine Intelligence School of Computer and Information Sciences

Director -Head of Research of Computer Science at Northumbria University
Head of Research – Computational Intelligence and Visual Computing
(CIVC) Labs.
Head of Division - Artificial Intelligence and Network Security: 2015 -
2021

August 2021 – Present

Professor of Machine Intelligence
Director – Centre for Data Analytics and Cybersecurity

Academic Record

Teaching Experience

- Extensive experience in teaching, examining and course development through lecturing a number of courses including Computer Science and Biomedical Engineering.
- Proposed and developed MSc programme in Computer and Electronic Security at Queen’s University (2008)
- Proposed and developed an MSc programme in Cybersecurity (Northumbria University), 2016
- Lead (Head) of Networks and Artificial Intelligence at Northumbria University, 2016- 2021
- Reviewed six (06) BSc programmes for overseas Universities (2012-2017)
- Acted as External Examiner at Kent University (MSc in Information Security and Biometrics), De Montfort University Leicester (MSc in Media Technologies)
- Have been supervising an average of 5 final year students each academic year since my appointment at Queen's and Northumbria University (over 120 so far).
- Have supervised over 100 MSc projects since my first academic appointment at Queen’s Belfast and Northumbria University (computer science, project management, health, etc).
- Have extensive expertise in Project Management through the supervision of more than 15 MSc students in Health and Security Applications
- Running Certified and Ethical Hacking (CEH) and AI accreditation at Northumbria University under my Division.
- Currently developing an MSc Programme jointly with Medical School “Biomedical Engineering”, Sharjah University (January -April 2023)

Research Experience

- Established and lead the Image and Video Processing group at Queen’s University in 1996: Initially the group consisted of 3 academics and 5 PhD students. It has extended and became a research Cluster in 2004 (it is now one major research clusters at Queen’s University of Belfast)
- Setup the 1st Conference Irish Machine Vision and Image Processing in 1997 (20th Edition in 2020)
- Established the Computational Intelligence and Visual Computing (CIVC) Lab. at Northumbria University in 2010. Currently it consists of 12 academics and more than 20 PhD students and is the major research Lab within the Department of Computer Science and Digital Technologies at Northumbria University. (I am Director of the Lab.)
- Was the principal Lead of the recent Research Excellence Framework (REF 2014) of Computer Science. This Unit of assessment was submitted for the first time by Northumbria University and 13 academics were returned in the submission. I lead the submission from scratch and the results achieved were very good resulting in a much significant support from the University.
- Developed the research strategy of Computer Science research within the University for the period 2015-2018 and the vision 2025.
- Have secured significant research funding from EPSRC (UK), QNRF (Qatar), Industry (UK)
- I have so far supervised successfully more than 45 PhD students.

Research Interest

- Imaging for Forensics and Security (Biometrics and Forensics applications, Multimedia Data Hiding and Steganography)
- Medical Analysis and Quantitative pathology (Cancer detection and Classification, Retinopathy grading, Early Epilepsy detection)

- Machine and Deep Learning and Quantum Machine Learning for multimedia security

Enterprise and Community

- Liaison Officer with North East of England Enterprise and Industry in Security/Cybersecurity: inward investment including funded industrial projects in the area of security and cybersecurity.
- Developed Apprenticeship programme in line with UK government initiative
- Founding member of Dynamo North East (which is an industry-led initiative focusing on growing the tech sector in the **North East** of England).
- Director of Certified Ethical Hacking programme

Awards and Honours

- Member of the EPSRC Peer Review College
- Member of Agence Nationale de la Recherche (ANR, France)
- Member of Australian Research Council (ARC)
- **Award:** For research contribution in the area of Secure Information Systems by European Center for Secure Information and Systems, 2006.
- **Best Paper Award:** IEEE Irish Machine Vision and Image Processing Conference (IMVIP 2009) “Rotation Invariant Matching of Partial Shoeprints”
- **Best paper Award:** IEEE/EURASIP Workshop on Visual Information Processing (EuVIP 2016) “Offlinetext independent writer identification using ensemble of multi-scale local ternary pattern histograms”
- Senior Member of IEEE
- Member of the Irish Pattern Recognition and Classification Society
- Collaborator with Microsoft Research USA – Crypto and Anti-Piracy Group to exploit the Microsoft EyeCert ® Technology.

Editing and Reviewing

- *Associate Editor of Springer Journal of Real Time Image Processing (2010 – present)*
- *Associate Editor of EURASIP Signal, Image and Video Processing Journal (2012 – present)*
- *Associate Editor of Elsevier Journal of Information Security and Applications (2014 – present)*
- *Associate Editor (MDPI – Sensors) (2020 – present)*
- Technical Co-Chair EuVIP Workshop (IEEE and EURASIP)
- Guest Editor of a Special Issue on Image Forensics of Springer Transactions of Data Hiding and Multimedia Security (2010)
- Guest Editor, Hindawi Journal and Electrical and Computer Engineering, Multidimensional Signal Processing and Applications, 2014
- Associate Editor of Pattern Recognition and Machine Intelligence (PRAMI) Journal.
- Member of Editorial board, International Journal of Information Technology and Web Engineering
- Guest Editor for a Special Issue on Data Compression Techniques, International Journal of Software and Information technology, 2004
- Special Session Chair on Imaging for Forensics and Security at the Conference on Adaptive Hardware and Systems (organized by IEEE, NASA and ESA), Istanbul June 2007 and August 2018 (Edinburgh, Scotland, UK).
- I regularly act as Reviewer for:
 - IEEE Transactions on Multimedia
 - IEEE Transactions on Image processing
 - IEEE Circuits, Systems and Signal Processing
 - IEEE Transactions on Information Technology in BioMedicine
 - Elsevier Journal of Systems Architectures (Elsevier, Holland),
 - Elsevier Signal Processing Journal
 - Elsevier Journal of Pattern Recognition
 - Elsevier Pattern Recognition Letters,
 - IET Proceedings - Vision, Image and Signal Processing,

- IET Proceedings – Computers and Digital Techniques
- IET Proceedings Image Processing
- IET Proceedings Biometrics
- Various IEEE Conferences in Image Processing, Circuits and Systems, Signal Processing, Design Automation Conference (DAC),

Invited Talks

I have been invited to give invited talks and plenary seminars more than 25 times from 2007 to present in various international conferences and in research centres in the UK and overseas including at Turkish Scientific and Technical Research Council, Hull University, University of Essex, 2000, Saudi Arabian Chamber of Commerce, Al-Khobar, Saudi Arabia, Institut Galilee, University Paris 13, World” Government-SMEs Conference, Algiers, ECSIS Symposium on Bio-inspired, Learning, and Intelligent Systems for Security, Edinburgh University, Universite de Lorraine, Metz (France), Qatar University, Université de Marseille (France).

UNIVERSITY ACTIVITIES

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|------------------|---|
| 98/99 – 2000-01: | MSc project Co-coordinator |
| 98/99 - date: | Member of School Research Committee |
| 97/98 – 99/00 | Member of School Teaching Committee |
| 95/96 – 01/04: | Overseas Student Tutor |
| 00/01 – 05/06: | Chairman (Security Group) at Queen’s University Belfast |
| 00/15 – 12/20 | Head of Computational Intelligence and Visual Computing (CIVC) Lab at Northumbria University |
| 01/10 – 2015 | Director of Research at Northumbria University, Department of Computer and Information Sciences |
| 01/12 – 08/21 | Member of recruitment committee, Faculty of Engineering and Environment |
| 12/15 – 12/2029t | International Assessor, University of Malaya (Malaysia) |
| 01/18 -- present | Consultant, Algerian Forensic Lab. |
| 07/19 – present | Technical Advisor (ortem.co.tr) in Turkey |

RESEARCH CONTRIBUTIONS

A- SUPERVISION

PhD Students Successfully Supervised

- [1] Badr Al-Besher (graduated 1998): High Speed Architectures for Signal and Image processing
- [2] Khaled Alotaibi (graduated 1999): A High level Hardware Description Environment for FPGA-based Image processing
- [3] Abbes Amira (graduated 2001): A Custom Coprocessor for Matrix Algorithms
- [4] Omar Nibouche (graduated 2002): High Performance Computer Arithmetic Architectures for Image and Signal Processing
- [5] Mokhtar Nibouche (graduated 2002): Design and FPGA Implementations for Discrete Wavelet Transforms
- [6] Avian Alexander (graduated 2003): An Investigation into the Automatic Classification of Shoeprints
- [7] Mohamed A Roula (graduated 2004): Machine Vision and Texture Analysis for the Automated Identification of tissue Patterns in Prostatic Tumours
- [8] Lahouari Ghouti (graduated 2005): Multiresolution-based Digital Multimedia Watermarking
- [9] M Atif Tahir (2005): Hardware and Software Solutions for Prostate Cancer Classification using Multispectral Images
- [10] Fouad Khelifi (graduated 2007): Image Compression and Watermarking in the Wavelet Transform Domain
- [11] Hongjiang Su (graduated 2007): Shoeprint Image Noise Reduction and Retrieval
- [12] I Thompson (graduated 2008): Digital Watermarking for Multimedia Security Using Complex Wavelets
- [13] W Boukabou (graduated 2009): “Robust Face Recognition using Directional and Tuneable Filters”
- [14] M Nabti (graduated 2009): “Robust Iris Recognition Using a Multiscale Approach”
- [15] K Zebbiche (graduated 2009): “Data Hiding for Securing Fingerprint Data Access”
- [16] N Mehellegue (graduated 2009): “Efficient Key Management for Wireless Sensor Networks”
- [17] Moussadek Laadjel (graduated 2009): “Human Recognition based on Palm Patterns”

- [18] Asim Baig (graduated 2010): “Biometric Fusion Frameworks”
- [19] Kashif Saghar (graduated 2010): “Formal Evaluation and Design of Routing Protocols for Wireless Sensor Networks in Hostile Environments”
- [20] Mourad Gueham (graduated 2011) : “Automatic Recognition of Shoeprint Images for Use in Forensic Science”
- [21] Sabrina Bouatmane (graduated 2011): “Implementation of sequential feature selection algorithms for use in the classification of prostate cancer”
- [22] Tim Reichert (graduated 2011): “A Pattern-Based Foundation for Language-Driven Software Engineering”
- [23] Ahmed Lawgali: Full Time (graduated in 2013): “Automatic handwritten Arabic Recognition”
- [24] Nouma Izeboudjen (graduated in 2014) “High Performance architectures for Neural Networks”
- [25] Supakorn Prunsinchai (graduated 2014): “Perceptual Hashing for Digital Media Security”
- [26] Sarvjeet Herald “Evolution of Audio Assets: Perceptual Relationship among Asset Copies”
- [27] Kamel Chenaoua (graduated 2015): Automatic Detection of Human Skin in Two-Dimensional and complex Imagery
- [28] Samia Belkacem (graduated 2015): Chaos based Image Watermarking”
- [29] Duaa AlSaeed (graduated in July 2015): “Statistical Approaches of Image Segmentation and Analysis”
- [30] Rajesh Muthu (graduated in July 2015): “Secure Biometric Recognition”
- [31] Abdenour Alimohad (graduated 2015) : CONTRIBUTION A L’INFERENCE D’IDENTITE EN UTILISANT UN SYSTEME DE RECONNAISSANCE DU LOCUTEUR GMM-UBM
- [32] Muhammad Khurram Shaikh (graduated 2016) “Face Recognition using Multiscale Local Binary Patterns”
- [33] Ashraf Lawgali (graduated in 2016) “Camera forensics using PNRU sensor noise estimation”
- [34] Martin Wonders (graduated July 2017) “Activity Recognition in Monitored Environments using utility Meter disaggregation”
- [35] Resheed Almoyteri (graduated 2017): “Framework for Integrated Visual Surveillance Systems in Saudi Arabia”
- [36] Rayana Boubezari (graduated May 2018): “Smartphone to Smartphone Visible Light Communications”
- [37] Remy Peyret (graduated 2018) “Colorectal Cancer Detection and Classification using Multispectral imagery”
- [38] Wafa Tarhouni (graduated May 2018): “Finger-knuckle-Print and Palmprint for efficient person recognition”
- [39] Ait Lishani (graduated 2018): “Person Recognition using Gait Energy Imagery”
- [40] Faraz Khan (graduated 2018) “Text Independent Offline Hand Writer Identification Using a Combination of Features”
- [41] Maya Bounneche (graduated 2017) “Recherche de la correspondance automatique de l’empreinte de paume de la main”
- [42] Amal Durou (graduated 2019) “Automated Recognition of Ancient Historical Manuscripts”
- [43] Gary Storey (graduated 2019) “Deep Human Face Analysis and Modelling”
- [44] Chirine Riachy (graduated 2020) “Person Re-Identification in the Crowd”
- [45] Ismahane Cheheb (graduated 2020) “Person Recognition and Abnormal Behaviour Detection at a Distance”
- [46] Philip Easom (graduated 2022): An Investigation Into Quantum Machine Learning Based Image Classification.

Research Students under Supervision

- [1] Mourad Bouzegza “Video Steganalysis for the Detection of Covert Communications in Social Media Networks” Part Time; started October 2017

External PhD Examinations

I have acted as **PhD External Examiner for 60+ times** since 1997 for various universities in the UK and abroad including the University of Newcastle Upon Tyne, National University of Ireland, University of Wales Cardiff, University of Edinburgh, University of Leeds, Ulster University, University of Aberdeen, Brunel University, University of Surrey, University of Lorraine, France, University of Portsmouth, Glasgow University, Leicester University, University of Marseille, France, Bradford University, University of Paris 13, France, University of Malaysia, Malaysia, Lahore University of Management Science, Pakistan, Wollongong University, Australia.

B- PUBLICATIONS

Books:

- 1- **“Imaging for Forensics and Security: From Theory to Practice”**
ISBN: 978-0-387-09531-8 (Springer Publishers), 2009.
- 2- **“Biometric Security and privacy: Opportunities & Challenges in the Big Data Era”**
ISBN 978-3-319-47300-0 (Springer Publishers), 2016.
- 3- **“Big Data Privacy and Security in Smart Cities” pringer Publishers), 2021.**
ISBN-13 : 978-3031044236 (springer Publishers), 2022

Patents

- 1- S Al-maadeed, A Bouridane, N Al Maadeed **“System of video steganalysis and a method for the detection of Covert Communications”** - US Patent Application. 16/376,690, 2019
- 2- Moez Bouali, Mohamad Sawan, Sumaya Al-Maadeed, Ahmed Bouridane **“Fluorescence lifetime spectroscopy based capsule endoscopy”** US Patent Office Application: 16222915 (date: 18/06/2020)

Refereed Journal papers:

- [1]: M Benaissa, A Bouridane, S S Dlay and A G J Holt “ A Diminished-1 Multiplier for a Fast Convolver/Correlator using the Fermat Number Transform, IEE Proceedings, Part G., Vol. 135, Issue 5, pp. 187-193, 1988.
- [2]: A Bouridane, A Pajayakrit, S S Dlay and A G J Holt “CMOS VLSI Circuits of Pipeline Sections for 32 and 64-point Fermat Number Transformers” Integration, the VLSI Journal, 1989, pp.51-64.
- [3] B. Al-Besher, A. Bouridane, A. S. Ashur and D. Crookes “A New Hybrid Low-Latency Serial-Parallel Multiplier” IEE Electronics Letters, Vol. 34, No2, Jan. 1998, pp.141-143.
- [4] A. Bouridane, K. Alotaibi, D. Crookes and P Donaghy “A High Level FPGA based Abstract Machine for Image Processing” Special Issue on Parallel Image Processing, the Journal of Systems Architectures, Vol. 45, Number 10, April 1999, pp. 809-824.
- [5]: D. Crookes, A. Bouridane et al "A High Level Software Environment for FPGA Based Image Processing" Proceedings of the IEE - Vision, Image and Signal Processing, Vol.147, Issue 4, 2000, pp.377-384.
- [6] A. Amira, A. Bouridane, P. Milligan and M A Roula “Novel FPGA Implementations of Walsh-Hadamard Transforms” IEE Proceedings on Vision, Image and Signal Processing, pp 377-383, Vol. 148, No. 6, December 2001.
- [7] A. Amira, A. Bouridane, P. Milligan and A. Belatreche “Design of Efficient Architectures for Discrete Orthogonal Transforms Using Bit Level Systolic Structures” IEE Proceedings on Computers and Digital Techniques, pp17-24, Vol. 149, No.1, January 2002.
- [8] O Nibouche, A Bouridane and M Nibouche “Bit-Level Architectures for Montgomery’s Multiplication” Proceedings of the IEE: Computers and Digital Techniques, Vol. 150, No. 6, 2003, pp.361-368.
- [9] O. Nibouche, M. Nibouche and A. Bouridane “New iterative algorithms for modular Multiplication” Signal Processing 84, pp.1919-1930, 2004.
- [10] S Boussakta, O Alshibami and A Bouridane “Vector Radix 4x4 for the fast Calculation of the 2-D New Mersenne Transform” Signal Processing 84, 2004, pp.2231-2244.
- [11] I. S. Uzun, A. Amira and A. Bouridane “FPGA implementations for fast Fourier transforms for real-time signal and image processing” IEE Proceedings on Vision, Image and Signal Processing Volume 152, Number 03 - June 2005, pp. 283-296
- [12] F. Bensaali, A. Amira and A. Bouridane “Accelerating Matrix Product on Reconfigurable Hardware for Image Processing Applications” IEE Proceedings on Circuits, Devices and Systems, Vol. 152, No. 3, June 2005, pp-236-246.

- [13] C. Benbouchama, S. Sakhi, M. Tadjine et A. Bouridane, “ On the Implementation of Neural Networks on Prof. Ahmed Bouridane, University of Sharjah (UAE)

FPGA Circuits: Application to Real Time Speed Control of DC Motor”, International Review of Electrical Engineering (I.R.E.E.), Vol.1, n. 4, pp.525-534, 2006

[14] M. A. Tahir, A. Bouridane, F. Kurugollu, and A. Amira “A Novel Prostate Cancer Classification Technique Using Intermediate Memory Tabu Search” EURASIP Journal on Applied Signal Processing, Vol. 2005, No. 14, Aug. 2005, pp.2241-2249.

[15] M. A. Tahir, A. Bouridane and F. Kurugollu “An FPGA based Coprocessor for GLCM and Haralick Texture Features and their Application in Prostate Cancer Classification” Analog Integrated Circuits and Signal processing Journal (Springer Science), Volume 43, Number 2, May 2005, pp.205-215.

[16] L Ghouti, A. Bouridane, S Boussakta and M K Ibrahim “Digital Image Watermarking Using Balanced Multiwavelets” *IEEE Transaction son Signal Processing*, Vol. 54, No. 4, pp1519-1536, April 2006.

[17] M A Tahir and A Bouridane “A Novel Round Robin Tabu Search Algorithm for Prostate Cancer Classification and Diagnosis using Multispectral Imagery” *IEEE Transactions on Information Technology in Biomedicine*, Vol. 10, No. 4, pp782-793, October2006 .

[18] H. Su, A. Bouridane, and D. Crookes, “Image Quality Measures for Hierarchical Decomposition of a Shoeprint Image”, *Forensic Science International*, Vol. 163 (1-2), November 2006, pp.125-131.

[19] H. Su, A. Bouridane, and D. Crookes, “Thresholding of Noisy Shoeprint Images Based on Pixel Context” *Pattern Recognition Letter*, Vol. 28 (2), 2007, pp. 301 – 307.

[20] M Nabti, A Bouridane and L Ghouti “An Efficient Iris Segmentation Technique based on a Multiscale Approach” Special Issue on Advances in Biometrics: Theory, Security and Applications, Journal, the Mediterranean Journal of Computers and Networks.

[21] M A Tahir, A Bouridane and F Kurugollu “Simultaneous Feature Selection and Feature Weighting using Hybrid Tabu Search/K-Nearest Neighbor Classifier” *Pattern Recognition Letters*, Vol. 28, Number 4, March 2007, pp.438-446.

[22] M Nabti and A. Bouridane “An effective and fast iris recognition system based on a combined multiscale feature extraction technique” *Journal of Pattern Recognition*, *Pattern Recognition* Vol. , No. 3, 4, pp868 – 879, March 2008.

[23] F Khelifi, A Bouridane and F Kurugollu “Joined Spectral Tress for Scalable SPIHT-based Multispectral Image Compression” *IEEE Transactions on Multimedia*, Vol. 10, No. 3, pages 316-329, April 2008.

[24] F Khelifi, A Bouridane and F Kurugollu “SPECK-based Lossless Multispectral Image Coding” *IEEE Signal Processing Letters*, Volume 15, Issue 1 Pages: 69-72, Jan. 2008.

[25] N Mehallegue, A Bouridane and E Garcia “Efficient Path Key Establishment For Wireless Sensor Networks” *EURASIP Journal on Wireless Communications and Networking* Vol. 2008 (2008), Article ID 456703, 9 pages, doi:10.1155/2008/456703

[26] K Zebbiche, F Khelifi and A Bouridane “An Efficient Watermarking Technique for the Protection of Fingerprint Images” *EURASIP Journal on Information Security* Vol. 2008 (2008), Article ID 918601, 20 pages doi:10.1155/2008/918601

[27] C Tanougast, M Janiaut, Y Berviller, S Weber, H Rabah and A Bouridane, “An Embedded and Programmable System Based FPGA for Real Time MPEG Stream Buffer Analysis” *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 19, No. 2, February 2009, Pages 237-249.

[28] A Baig, A Bouridane, F Kurugollu and G Qu “Fingerprint – Iris Fusion based Identification System using Single Hamming Distance Matcher” *International Journal of Bio-Science and Bio-Technology*, Vol. 1, No. 1, Dec. 2009, pp-47-57

[29] K Zebbiche, F Khelifi and A Bouridane “Robust Multibit Decoding and Detection of Multiplicative

Watermarks for Fingerprint Images” Journal of Multimedia, Vol. 5, No 2 (2010), pp.167-180

[30] L Sieler, C Tanougast, A Dandache and A Bouridane “A scalable and embedded FPGA architecture for efficient computation of grey level co-occurrence matrices and Haralick textures features” Elsevier Microprocessors and Microsystems Journal, Vol. 34, Issue 1, February 2010, Pages 14-24.

[31] M Laadjel, A Bouridane, F Kurugollu, Omar Nibouche and W Yan “Partial Palmprint Matching Using Invariant Local Minutiae Descriptors” Transactions on Data Hiding and Multimedia Security, LNCS 6010, pp. 1–17, 2010.

[32] B Sabrina, M A Roula, A Bouridane and S Al-Maadeed “Round-Robin sequential forward selection algorithm for prostate cancer classification and diagnosis using multispectral imagery” Springer Journal Machine and Vision Applications, Vol 22, 2011, pp-865-878.

[33] I Thompson, F Kurugollu, A Bouridane and C Tanougast “Watermarking for Multimedia Security Using Complex Wavelets” Journal of Multimedia, Vol. 5, No 5 (2010), pp.443-457.

[34] M Laadjel, A Bouridane, F Kurugollu and W Yan “Palmprint Recognition Based on Subspace Analysis of Gabor Filter Bank” International Journal of Digital Crime and Forensics, Vol. 2, No. 4, 2010, pp.1-15.

[35] I Bouraoui, S Chitroub and A Bouridane “Does independent component analysis perform well for Iris recognition” *Intelligent Data Analysis, an International Journal*, Vol. 16, N°. 3.

[36] A Meraoumia, S Chitroub and A Bouridane “Palmprint and Finger-Knuckle-Print for Efficient Person Recognition Based on Log-Gabor Filter Response” Springer Analog Integrated Circuits and Signal Processing, Vol 69, 2011, pp17-27.

[37] I Bouraoui, S Chitroub, and A Bouridane, “Flexible-ICA Algorithm for a Reliable Iris Recognition” Transaction on Large-scale data and Knowledge Centered Systems (TLDKS IV), LNCS Vol. 6990, pp. 188-208, Springer-Verlag 2011.

[38] A. Chaddad, C. Tanougast, A. Dandache and A. Bouridane, “Extracted Haralick’s Texture Features and Morphological Parameters from Segmented Multispectral Texture Bio-Images for Classification of Colon Cancer Cells”, *WSEAS (World Scientific and Engineering Academy and Society) Transaction on Biology and Biomedicine journal*, Issue 2, Volume 8, April 2011, pp. 39 - 50.

[39] M. A. Tahir, J. Kittler and A. Bouridane “Multilabel classification using Heterogeneous Ensemble of Multi-label Classifiers” Pattern Recognition Letters 33, Issue 5, April 2012, pp.513-523.

[40] M. Laadjel, A. Bouridane, O. Nibouche, F. Kurugollu and S. Al-Maadeed “An improved palmprint recognition system using iris features” Journal of Real Time Image Processing, Volume 8, Issue 3, pp 253-263 (2013)

[41] N Izeboudjen, A Bouridane "Application of Design Reuse to Artificial Neural Networks: Case Study of the Back Propagation Algorithm", Springer Neural Computing and Applications Journal, Vol. 21, Issue 7, October 2012, pp1531-1544

[42] A Lahoulou, A Bouridane, E Viennet and M Haddadi “Full Reference Image Quality Metrics Performance Evaluation over Image Quality Databases” Arabian Journal for Science and Engineering, Volume 38, Issue 9 (2013), pp. 2327-2356.

[43] A. Lahoulou, E. Viennet, A. Bouridane and M. Haddadi “Customizing Cost Function for Optimizing Image Quality Measures Performances” International Journal of Electronics, 99(9), Nov. 2012, pp.1533-1546.

[44] W R Boukabou, A Bouridane and S Al-Maadeed “Enhancing Face Recognition Using Directional Filter Banks” Elsevier Journal of Digital Signal Processing, Vol. 23, Issue 2, 2013, pp.586-594.

[45] Abdallah Meraoumia, Salim Chitroub and Ahmed Bouridane, “Fusion of Multi-spectral Palmprint Images for

Improved Identification Performance”, International Journal of Photonics and Optoelectronics, World Academic Publishing, Vol. No. 1, pp 13-19, 2012.

[46] R Ngadiran, S Boussakta, **A Bouridane** and F Khelifi “Exploiting Chrominance Plane Similarity on Listless Quadtree Coder” IET Proceedings Image Processing, IET Image Processing, Vol. 7, Issue. 6, pp. 575–585, 2013.

[47] A. Rouigueb, S. Chitroub and **A. Bouridane** “Density Estimation of High Dimensional Data Using ICA and Bayesian Networks” Journal of Intelligent Data Analysis, IOS Press, Volume 18(2), March 2014, pp157-179.

[48] A. Baig, **A Bouridane**, F Kurugollu and B Albeshier “Cascaded Multimodal Biometric Recognition Framework” IET Proceedings on Biometrics , Vol. 3, Issue 1, March 2014, pp16-28.

[49] M. A. Tahir, F. Yan, P. Koniusz, M. Awais, M. Barnard, K. Mikolajczyk, **A. Bouridane** and J. Kittler ”Robust and Scalable Visual Category and Action Recognition System using Kernel Discriminant Analysis with Spectral Regression” IEEE Transactions on Multimedia, Vol. 15, No. 7, 2013, pp.1653-1664.

[50] Abdallah Meraoumia, Salim Chitroub and **Ahmed Bouridane** “2D and 3D palmprint information, PCA and HMM for an improved person recognition performance “ IOS Integrated Computer-Aided Engineering, Vol. 20 (2013) 303–319 (Impact factor : 3.45)

[51] A. Rouigueb, S. Chitroub and A. Bouridane “Bayesian inference over ICA models: application to multibiometric score fusion with quality estimates” Taylor and Francis Journal of Applied Statistics, April 2014, DOI: 10.1080/02664763.2014.909780

[52] Abdallah Meraoumia, Salim Chitroub and **Ahmed Bouridane** “Do multispectral palmprint images be reliable for person identification?” Springer Multimedia Tools and Applications Journal, DOI: 10.1007/s11042-013-1706-3.

[53] S. Almaadeed, R. Almotaeryi, R Jiang and **A. Bouridane** “Robust Human Silhouette Extraction with Laplacian Fitting” Elsevier Pattern Recognition Letters, Vol. 49, pp-69-76.

[54] M.S. Azzaz, C. Tanougast, S. Sadoudi, A. Bouridane, "Synchronized Hybrid Chaotic Generators: Application to Real-time Wireless Speech Encryption", Elsevier Communications in Nonlinear Science and Numerical Simulation, Volume 18, Issue 8, August 2013, Pages 2035–2047.

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Journal Papers Submitted/under Review:

- [1] Almaghtuf, F. Khelifi and A. Bouridane "LBP-based Feature Points Detector for Full and Partial Palmprint Recognition" submitted to Elsevier Journal Expert Systems with Applications

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- £84,000.00 to develop novel techniques in "Lossless Video Compression for Desktop to Desktop Prof. Ahmed Bouridane, University of Sharjah (UAE)

- Communications" from C-C-C Technology Limited Company (C-C-C), Springbank Industrial Estate, Pembroke Loop Road, Dunmurry, Belfast BT17 0QL, Northern Ireland (July 2001 - July 2003).
- £204,850: EPSRC grant proposal entitled “Automated Classification of Shoemarks for use in Forensic Science” Principal Investigator with Prof. D Crookes. Successful: (3 years: one RA and one PhD student for 3 years from April 2006).
 - £62,000: EPSRC Industrial Case with Forensic Science Services (UK) Grant entitled “Statistical Evidential Value Assessment of Shoe Impressions left on Crime Scenes”: October 2008 - September 2011.
 - £135,000: Algerian Government “Emerging Biometric Technologies” (September 2005- September 2009)
 - \$900,000/158k: Qatar Science Foundation “Intelligent Document Management System for Automatic Writer Identification” (Jan 2011-Dec 2013).
 - A ElZaart, R Sammouda, A Bouridane, A Bouridane and M A Tahir “Computer-Aided Detection and Classification of Prostatic Cancerous Tissues using Near and Mid Infrared Multispectral Imagery” submitted to KACST (funding Body of Saudi Arabia), Value: SAR1,552,200 (£260,000).
 - \$910,000.00k: Qatar Science Foundation “Automated Classification and Diagnosis of Tissue Patterns in Colorectal Tumours using Non-Visible Multispectral Imagery” (April 2014 – March 2017).
 - \$830,000.00: Qatar Science Foundation “Intelligent System to Digitally Support Paleographic Analysis of Ancient Manuscripts in Qatar” (Jan 2015-Dec 2017). Overall value of project: *Overall value \$830k.*
 - QR150,000 (~ £26,500) Digitization of Arabic documents, Qatar University internal grant, QUUG-CEN-DCS12\13-10: (1-4-2013 to 1-4-2014)
 - £790,000:00 Qatar Science Foundation “A Biologically-inspired Multi-sensor and Multi-modal System for Public Security” July 2016 – July 2019 Qatar Science Foundation (December 2015).
 - \$400,000:00 Qatar Science Foundation “Detection of covert communications in untrusted channels” February 2020 - January 2022.
 - \$400,000: Qatar Science Foundation “Video forensics for source smartphone identification, video content authentication, and forgery detection” January 2020-December 2022.
 - £63,000: Space Group (Europe) Ltd. And European Regional Development Fund “The application of AI and machine learning for the better performance and predictive maintenance of buildings using data from digital twins”.
 - \$150,000: Qatar University “Automated Detection and Grading of Retinopathy”, July 2021-December 2022.
 - \$255,000: Technology and Innovation Institute (Abu Dhabi) “Video forensics for source smartphone identification, content authentication and forgery detection” Accepted (currently negotiating IP rights): June 2023-May 2026.
 - AED 160,000: Processing in the Encrypted Domain (PiED), UoS-Luebeck University Funds (Sept 2023-Aug 2025)
 - AED 130,000: Towards an Explainable Diabetic Retinopathy Grading Model), UoS-Skolkovo Institute of Technology, Russia Collaboration (Sept 2023-Aug 2025)
 - \$740,000: Deciphering the Molecular Pathogenesis of Breast Cancer by combining Histopathological Images and OMICs data from Different Breast Cancer Subtypes using Artificial Intelligence, Qatar Research Development and Innovation Jan 2024-Dec 2026)