Imed **Bouchrika**

Professor of Computer Science and Electronics

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Experience

University of Souk Ahras
Souk Ahras, Algeria

Professor
Nov. 2010 - Now

- Working as the director for the Center of Information Technology and Communication within the University to boost the uptake of e-Learning Technology.
- Member of the scientific committee for the school of Computer Science.
- Lectured Modules:
  - Advanced Database Systems (Master I)
  - Enterprise Computing (Master II)
  - Human Computer Interaction (Master I)
  - Introduction to Scientific Research (Master I)
  - Machine Learning II (Master II)

L*i*M Research Laboratory
Souk Ahras, Algeria

Head of Research Lab
July. 2017 - 2019

- Leading the research group within the Faculty of Science and Technology.
- Working on the construction of research datasets for the area of e-Learning, Biometrics and Image Processing.
- Setting up research links and collaboration with international partners.

University of Southampton
Southampton, United Kingdom

Research Fellow
Jan. 2013 - Feb. 2013

- Worked on developing a biometric system to detect and recognize walking people from different viewing angles. The research project is being done in partnership with QinetiQ
- Key coordinator of the Face and Gesture International Conference held in Southampton with 300 delegates. I worked in a team to ensure the smooth progression of the conference.
- Worked as a conference reviewer for the International Conference on Biometrics in South Korea. I was responsible for reviewing a number of research papers and judging their novelties and scientific contributions.

Harvard Avenue Ventures
Boston, United States

R & D Director
Sep. 2007 - Feb. 2010

- Launched various online ventures including mainly: Hosting, software development and system administration
- Serving more then 100,000 customers world wide.
- Acquired excellent skills in online marketing, accounting, e-commerce as well as system administrations.

Education

PhD/MPhil in Electronics and Electrical Engineering
Southampton, United Kingdom

University of Southampton
Sept. 2004 - Mar. 2008

- Thesis title : Gait Analysis and Recognition for Automated Visual Surveillance
- PhD Supervisor : Professor Mark S. Nixon
- Research Project: Because of the dearth of visual surveillance systems that exploit human gait for object classification and their limited aim to detect people only using simple shape-based features extracted from silhouettes, we have explored an alternative technique for walking people detection based on their gait motion. The foot prints pattern produced from the heel strikes of walking people is considered a strong cue for people detection. Further, we have proposed a novel method for visual surveillance systems to recognize people using a biometric solution based on gait.

Bsc Computer Science with Artificial Intelligence

Southampton, United Kingdom

University of Southampton

Sept. 2001 - Jun. 2004

- 3^{rd} Year Project : Developed a machine learning algorithm using C# for selecting the prominent gait features which can be used for a biometric system to recognize people by the way they walk (Grade **81%**)
- Group Project: I worked in a team to develop an Airport Simulator Software using Java3D for the Southampton Airport. Because of my excellent knowledge in Java, I was chosen as the lead programmer of the project. We received a special invitation to demonstrate our software to the airport managers.

Baccalauréat Exam - Mathematics

Souk Ahras, Algeria

M'Adourouch High School

Sept. 1996 - Jun. 1999

- Scored $16.46/20$ ranking 16^{th} nationwide, 1999
- Won the 3^{rd} place for the National Mathematics Olympiad, 1999

Publications

Journals

2019 **I. Bouchrika**, N. Harrati, V. Wanick and G. Wills "Exploring the impact of gamification on student engagement and involvement with e-learning systems". *Interactive Learning Environments*, Taylor & Francis, (**Imp. Factor. 1.604**)

2019 A. Ladjailia, **I. Bouchrika**, H. F. Merouani, N. Harrati and Z. Mahfouf. "Human activity recognition via optical flow: decomposing activities into basic actions". *Neural Computing and Applications.*, Springer (**Imp. Factor. 4.213**)

2018 Z. Mahfouf, H. F. Merouani, **I. Bouchrika** and N. Harrati. "Investigating the use of Motion-based Features from Optical Flow for Gait Recognition ". *Neurocomputing*, Elsevier, Vol 3283(C) (**Imp. Factor. 3.317**)

2017 N. Harrati, **I. Bouchrika** and Z. Mahfouf. "Investigating the uptake of educational systems by academics using the technology to performance chain model". *Library Hi Tech.*, Emerald, Vol 35(4) (**Imp. Factor. 0.795**)

2016 **I. Bouchrika**, J. N. Carter and M. S. Nixon. "Towards Automated Visual Surveillance using Gait for Identity Recognition and Tracking across Multiple Non-Intersecting Cameras". *Multimedia Tools and Applications*, Springer, Vol 75(2), pp:1201–1221 (**Imp. Factor. 1.346**)

2016 A. Bekhouch, **I. Bouchrika** and N. Doghmane. "Improving View Random Access via Increasing Hierarchical Levels for Multi-view Video Coding". *IEEE Transactions on Consumer Electronics*, Vol 62(4) (**Imp. Factor. 1.120**)

2016 N. Harrati, **I. Bouchrika**, A. Tari and A. Ladjailia. "Exploring user satisfaction for e-learning systems via usage-based metrics and system usability scale analysis". *Computers in Human Behavior*, Elsevier, Vol 61(C) (**Imp. Factor. 2.694**)

2011 **I. Bouchrika**, M. Goffredo, J. N. Carter, M. S. Nixon. "On Using Gait in Forensic Biometrics". *Journal of Forensic Sciences*, Wiley, Vol 56(4), pp:882-889 (**Imp. Factor: 1.244**)

2009 M. Goffredo, **I. Bouchrika**, John N. Carter and Mark S. Nixon. "Self-Calibrating View-invariant Gait Biometrics". *Journal of IEEE Transaction Systems, Man, and Cybernetics B*. (**Impact Factor: 6.220**).

2009 M. Goffredo, **I. Bouchrika**, J. N. Carter and M. S. Nixon. "Performance Analysis for Automated Gait Extraction and Recognition in Multi-Camera Surveillance". *Journal of Multimedia Tools and Application*, Springer. (**Imp. Factor: 1.346**).

Books

2018 **I. Bouchrika**, N. Harrati, and P. Vu. *Learner Experience and Usability in Online Education*, IGI-Global, ISBN:978-1-522-54206-3, 2018

Book Chapters

2018 **I. Bouchrika**, N. Harrati, Z. Mahfouf and N. Gasmallah. "Evaluating the acceptance of e-learning systems via subjective and objective data analysis". *Software Data Engineering For Network eLearning Environments: Analytics and Awareness Learning Services*, Springer, ISBN:978-3-319-68318-8, 2017

2018 **I. Bouchrika** "A Survey of Using Biometrics for Smart Visual Surveillance: Gait Recognition". *Surveillance in Action Technologies for Civilian, Military and Cyber Surveillance*, Springer, ISBN 978-3-319-68533-5, 2018

2017 **I. Bouchrika** "Evidence Evaluation of Gait Biometrics for Forensic Investigation". *Multimedia Forensics and Security*, Springer, pp:307-326, ISBN:978-3-319-44268-6, 2017

2017 **I. Bouchrika** "On Using Gait Biometrics for Re-Identification in Automated Visual Surveillance". *Developing Next-Generation Countermeasures for Homeland Security Threat Prevention*, IGI-Global, pp:140-163, ISBN:978-1-522-50704-8, 2017

2017 N. Harrati, **I. Bouchrika**, A. Ladjailia and Z. Mahfouf. "Evaluation methods for e-learning applications in terms of user satisfaction and interface usability". *Handbook of Research on Innovative Pedagogies and Technologies for Online Learning in Higher Education*, IGI-Global, ISBN:978-1-522-51852-5, 2017

2017 A. Ladjailia, **I. Bouchrika**, N. Harrati and Z. Mahfouf. "Encoding Human Motion for Automated Activity Recognition in Surveillance Applications". *Applied Video Processing in Surveillance and Monitoring Systems*, IGI-Global, pp:170-192, ISBN:978-1-522-51023-9, 2017

Conferences

2016 N. Harrati, **I. Bouchrika** and Z. Mahfouf. "e-Learning : On the uptake of modern technologies for online education". *IEEE 6th International Conference on Information Communication and Management*, United Kingdom, 2016

2016 **I. Bouchrika**, Z. Mahfouf and N. Harrati. "Re-Identification : On the Perception of Human Motion for Surveillance and Forensic Applications". *In IEEE Proc.17th international conference on Sciences and Techniques of Automatic control and computer engineering*, Tunisia, 2016

2016 Z. Mahfouf, **I. Bouchrika**, H. F. Merouani and N. Harrati. "Gait Biometrics via Optical Flow Motion Features for People Identification". *In IEEE Proc. 17th international conference on Sciences and Techniques of Automatic control and computer engineering*, Tunisia, 2016

2015 **I. Bouchrika**. Parametric Elliptic Fourier Descriptors for Automated Extraction of Gait Features for People Identification. In IEEE Proc.12th International Symposium on Programming and Systems, Algeria, 2015.

2015 **I. Bouchrika**. On Evaluating the Scalability Aspect of Gait-Based Biometric Systems for Larger Population. In IEEE Proc. 3rd International Conference on Control, Engineering & Information Technology, Algeria, 2015.

2015 N. Harrati, **I. Bouchrika**, A. Tari, and A. Ladjailia. Automating the Evaluation of Usability Remotely for Web Applications via a Model-Based Approach. In IEEE Proc. International Conference on New Technologies of Information and Communication, Algeria, 2015.

2015 **I. Bouchrika**, A. Ladjailia, N. Harrati and S. Khedairia. Automated Clustering and Estimation of Age Groups from Face Images using the Local Binary Pattern Operator. In IEEE Proceeding of 4th International Conference on Electrical Engineering (ICEE), Algeria, 2015.

2015 A. Ladjailia,**I. Bouchrika**, H. F. Merouani and N. Harrati. Automated Detection of Similar Human Actions using Motion Descriptors. In IEEE Proc.16th international conference on Sciences and Techniques of Automatic control and computer engineering, Tunisia, 2015.

2015 N. Harrati, **I. Bouchrika**, A. Tari, and A. Ladjailia. Automated classification of facial expressions using bag of visual words and texture-based features. In IEEE Proc.16th international conference on Sciences and Techniques of Automatic control and computer engineering, Tunisia, 2015.

2015 A. Ladjailia, **I. Bouchrika**, H. F. Merouani and N. Harrati. On the use of Local Motion Information for Human Action Recognition via Feature Selection. In IEEE Proc. 4th International Conference on Electrical Engineering (ICEE), Algeria, 2015.

2014 **I. Bouchrika** and A. Boukrouche. Markerless Extraction of Gait Features using Haar-like Template for View-Invariant Biometrics. In IEEE Proc.15th international conference on Sciences and Techniques of Automatic control and computer engineering, Tunisia, 2014.

2013 **I. Bouchrika**, A. Rabir, L Ait-Oubeli, N. Harrati. Mockup-based Navigational Diagram for the Development of Interactive Web Applications. In Prof of ACM International Conference on Information Systems and Design of Communication (ISDOC2013), Portugal, 2013.

2013 **I. Bouchrika**, A. Bekhouch and A. Amirat. Vision-based approach for people tracking using gait in distributed and automated visual surveillance. In .2013 8th International IEEE Workshop on Systems, Signal Processing and their Applications (WoSSPA), Algiers, Algeria, 2013.

2010 **I. Bouchrika**, John N. Carter, Mark S. Nixon, R. Morzinger and G. Thallinger Using Gait Features for Improving Walking People Detection. IEEE International Conf on Pattern Recognition. Turkey, 2010.

2010 B. Arbab-Zavar , **I. Bouchrika**, M. S. Nixon, J. N. Carter. On supervised human activity analysis for structured environments. 6th International Symposium on Visual Computing (ISVC10),. Las Vegas, Nevada, USA, 2010

2010 M. S. Nixon, **I. Bouchrika**, B. Arbab-Zavar, J. N. Carter. On the use of Biometrics in Forensics: Gait and Ear. European Signal Processing Conference, EURASIP. Denmark, 2010

2010 R. Mörzinger, M. Sardis, and I. Rosenberg, H. Grabner, G. Veres, **I. Bouchrika**, M. Thaler, R. Schuste and others. Tools for semi-automatic monitoring of industrial workflows, ACM international workshop on Analysis and retrieval of tracked events and motion in imagery streams, Italy, 2010.

2009 **I. Bouchrika**, John N. Carter and Mark S. Nixon. Recognizing People in Non-Intersecting Camera Views. International Conference on Imaging for Crime Detection and Prevention, IET. London, UK, 2009.

2009 **I. Bouchrika**, Michela Goffredo, John N. Carter and Mark S. Nixon. Covariate Analysis for View-point Independent Gait Recognition. The 3rd IAPR/IEEE International Conference on Biometrics. Italy, 2009.

2008 **I. Bouchrika** and M. S. Nixon. Gait Recognition by Dynamic Cues. 19th IEEE International Conference on Pattern Recognition., Tampa, Florida, USA, 2008.

2008 **I. Bouchrika** and M. S. Nixon. Exploratory Factor Analysis of Gait Recognition. 8th IEEE International Conference on Automatic Face and Gesture Recognition, Amsterdam, The Netherlands, 2008.

2008 M. Goffredo, **I. Bouchrika**, J. N. Carter and M. S. Nixon. Performance Analysis for Gait in Camera Networks. ACM Workshop on Analysis and Retrieval of Events, Actions, and Workflows in Video Streams. Vancouver, Canada, 2008.

2007 **I. Bouchrika** and M. S. Nixon. Gait-Based Pedestrian Detection for Automated Surveillance. International Conference on Computer Vision Systems, Springer, Bielfeld, Germany, March 2007.

2007 **I. Bouchrika** and M. S. Nixon. Model-Based Feature Extraction for Gait Analysis and Recognition, Mirage: Computer Vision / Computer Graphics Collaboration Techniques and Applications, Springer, INRIA Rocquencourt, France, March 2007.

2006 **I. Bouchrika** and M. S. Nixon. Markerless Feature Extraction for Gait Analysis, in IEEE SMC Chapter Conference on Advanced in Cybernetic Systems, Sheffield, UK, September 2006.

2006 **I. Bouchrika** and M. S. Nixon. People Detection and Recognition using Gait for Automated Visual Surveillance, in IEEE International Symposium on Imaging for Crime Detection and Prevention, London, 2006.

2006 **I. Bouchrika** and M. S. Nixon. People Detection using Gait for Visual Surveillance, BMVA Symposium on Detection vs. Tracking, London, 2006.

Research Projects

Guide 2 Research

Souk Ahras, Algeria

WWW.GUIDE2RESEARCH.COM

Jan. 2015 - PRESENT

- Guide2Research is an academic portal for researchers within the Computer Science and Electronics communities.
- The portal features a well-respected list for top scientists ranked based on their h-index
- The website receives over 2,000 academic visitors on a daily basis to search for conferences and journals

Usability Evaluation

Souk Ahras, Algeria

WWW.USABILITY.WS

2014-Now

- An online platform is being developed for assessing the usability of web application via the use of usage metrics.
- Access to the platform is granted for free to the research community upon request.
- Experiments are conducted on e-Learning systems releasing the first dataset for remote usability evaluation
- The research project is done in collaboration with the University of Bejaia

SCOVIS Project (Self-Configurable Cognitive Video Supervision)

Southampton, UK

WWW.SCOVIS.EU

2009-2010

- Self Configurable Cognitive Video Supervision (SCOVIS) has received funding from the European Community's Seventh Framework Programme (FP7/ 2007-2013) under grant agreement no 216465.
- The project SCOVIS aims at automatically detecting behaviours and learning visually observable procedures and workflows, especially in manufacturing and public infrastructure environments.
- Project partners include : ETZ Zurich, ATOS Spain and Nissan Motors
- The European project delivered outstanding results in terms of innovation, research publication and technological developments.

DIF DTC Cluster Project

Southampton, UK

WWW.ECS.SOTON.AC.UK

2008-2009

- This project is funded by the Ministry of Defense, United Kingdom
- The aim is to investigate approaches to tracking articulated objects in video sequences and the development of models for them, such as graphical models and Bayesian networks.
- The emphasis was on tracking algorithms that can accommodate the output from detection algorithms since this target application is with a significant amount of occlusion.

Program Committees

2016	6^{th} International Conference on Image Processing Theory, Tools and Applications; IPTA'16	*Findland*
2013	32^{nd} ACM Symposium on Applied Computing	*Morocco*
2015	6^{th} International Conference on Image Processing Theory, Tools and Applications; IPTA'15	*France*
2015	3^{rd} International Conference on Signal, Image, Vision and their Applications : SIVA'15	*Algeria*
2015	International Conference on Automatic control, Telecommunication and Signals (ICATS'15)	*Algeria*

Honors & Awards

2014	Awarded the Habilitation Degree for Academic Research	*Algeria*
2004	Passed the Java Enterprise Edition -J2EE exam of Sun Microsystems Inc.	*United Kingdom*
2003	Awared the best mark (97%) for developing an AI-Chess game	*United Kingdom*
2001	Gained the Java Programmer Certificate from Sun Microsystems Inc	*United Kingdom*
1999	Received The Algerian Presidency Scholarship Award	*Algeria*
1999	Won the 3^{rd} place for the National Mathematics Olympiad	*Algeria*

Writing

EJB Tutorial.com

www.ejbtutorial.com

FOUNDER & WRITER

Jan. 2015 - PRESENT

- This is a portal for java programmers to learn Java Enterprise Edition
- The website is ranked well for a number of search terms including Corba, java rmi and EJB

Learn Database Systems

www.LearnDB.com

FOUNDER & WRITER

Jan. 2015 - PRESENT

- LearnDB.com is an education website dedicated for university students as well as professionals
- The site features a number of tutorials with a step-by-step exercises as well as interactive quiz systems