

RESUME/ CURRICULUM VITAE

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Scopus: **<https://www.scopus.com/authid/detail.uri?authorId=36719883700>**

Google Scholar: **<https://scholar.google.com/citations?user=XzD4xzoAAAAJ&hl=fr>**

Researchgate: **https://www.researchgate.net/profile/Najib_Aoun**

DBLP: **http://dblp.uni-trier.de/pers/hd/a/Aoun:Najib_Ben**

Nationality: **Tunisian**

CAREER PROFILE/SUMMARY

Najib BEN AOUN received the B.S degree in computer sciences from the Higher Institute of Applied Sciences and Technologies of Sousse (ISSATS) in 2006. He obtained the M.S degree and the Ph.D degree in Computer Systems Engineering from the National Engineering School of Sfax (ENIS), Tunisia, in 2008 and 2014, respectively. He spent three years (2006-2009) at the Faculty of Sciences of Sfax (FSS) and three years (2009-2011) at the Higher Institute of Computer Science and Multimedia of Sfax (ISIMS) as an assistant. Between 2011 and 2015, he joined the National School of Electronics and Telecommunications of Sfax (ENET'Com) as an assistant professor. He is currently an assistant professor at the College of Computer Science and Information Technology (CCS&IT) of Al-Baha University, Saudi Arabia. He is now pursuing his post-doctoral researches within the **REsearch Groups in Intelligent Machines (REGIM-Lab)**. His main research interests are focused on issues related to Machine Learning, Computer Vision and Data Science, in particular to image/objects classification, video event/action recognition and detection and pattern recognition. Dr. Najib served as a reviewer in several high reputed journals such as: the IEEE Transactions on MultiMedia (2017), the Journal of Pattern Recognition (2015), the Journal of Visual Communication and Image Representation (2015), the Journal of Machine Vision and Applications (2013-2014) and the Journal of Frontiers of Information Technology & Electronic Engineering (2013). He served also as a chair session in ICSP'2010 conference and on numerous Technical Program Committees such as: ICASSP'2012-2017, VCIP'2016, EUSIPCO'2015-2016, ICME'2015, MMSP'2013-2015, SoCPaR'2014, MELECON'2012, ISCI'2012, ICCAIE'2011. Dr. Najib is currently an ACM, IAPR, MIRLabs, IEEE and IEEE Signal Processing Society member. He was the secretary and the treasurer of the SPS Tunisia

Chapter during 2015-2016 (Vice Chair in 2013-2014) and the chair of the IEEE SPS Student Branch Chapter at ENIS during 2011-2012 (treasurer during 2010). He obtained an IEEE appreciation award for his contribution in Vice-chair of the SPS Tunisia Chapter in 2013.

EDUCATION/ACADEMIC QUALIFICATIONS

- **February 2014** **PhD on Computer Systems Engineering** (ISI) from the National School of Engineers of Sfax (ENIS), University of Sfax, Tunisia.

Thesis Title: Bag-of-sub-Graph approach based video categorization

Advisor: Professor Chokri Ben Amar, ENIS, Sfax, Tunisia.

Abstract: This thesis deals with the video categorization which is an important task for many applications such as the video surveillance, the traffic control, the bio-surveillance, the automatic summarization of video, the robotic robotics (visual control) and systems. Indeed, the video categorization is based on the recognition of human actions and events present. Several works have developed systems to realize the recognition of human actions and events but they have not achieved good results. Our goal in this thesis was to overcome the problems related to these tasks to develop an efficient and robust system. For this, we developed a system for recognizing human actions and events based on a new indexing technique that has proven its power and effectiveness in other domains. This method based on modeling images and video with the graphs has adequately represented the events /actions that gave the better results.

- **June 2008** **Master degree** on New Technologies of Dedicated Computer Systems (NTSID), National School of Engineers of Sfax, University of Sfax (Tunisia).

Thesis Title: Multiresolution Motion Estimation and Compensation for video coding

Advisor: Professor Chokri Ben Amar, ENIS, Sfax, Tunisia.

Abstract: Our project of master proposes an algorithm of estimate of movement in the multi-resolution field. The concept of “Quadtree” is exploited in order to reduce the complexity of calculation of the motion estimation. Indeed, we highest will estimate the movement in

the tape low frequency of the level of the decomposition of image. Then, we will deduce the motion vectors of the other tapes. Moreover, many techniques of improvement were integrated in order to optimize our algorithm. The evaluation of our algorithm proved these performances and its effectiveness while arriving at a good quality of estimate as well as an increase in the compression ratio.

- **June 2006** **4-years degree on Computer Science**, Higher Institute of Applied Sciences and Technology of Sousse, (ISSATS), University of Sousse, Tunisia.
- **June 2004** **D.U.P.C. Degree on Computer Science**, Higher Institute of Applied Sciences and Technology of Sousse, (ISSATS), University of Sousse, Tunisia.
- **June 2002** **Baccalaureate on Experimental Sciences**, Secondary School of Bir Ali, Sfax (Tunisia).

EMPLOYMENT HISTORY

- **Since Aug.15** **Assistant Professor** at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University, Kingdom of Saudi Arabia.
- **Sept.04 – Sept.15** **Assistant Professor** at the National School of Electronics and Telecommunications of Sfax (ENET'Com), University of Sfax, Tunisia.
- **Sept.11 – Sept.14** **Permanent Lecturer** at the Higher Institute of Electronics and Communication of Sfax (ISECS), University of Sfax, Tunisia.
- **Sept.09 – Sept.11** **Lecturer Assistant**, Department of Computer Technology and Multimedia, Higher Institute of Computer Science and Multimedia of Sfax (ISIMS), University of Sfax, Tunisia.
- **Sept.08 - July09** **Lecturer assistant**, Department of Computer Science and Communications, Faculty of Science of Sfax (FSS), University of Sfax (Tunisia)
- **Sept.06 - July08** **Teaching Assistant**, Department of Computer Science and Communications, Faculty of Science of Sfax (FSS), University of Sfax (Tunisia)

PUBLICATIONS

➤ *Refereed Journal Papers (with Impact Factor)*

- Brahim, S., **Ben Aoun, N.** and Ben Amar, C., (2019) **Boosted Convolutional Neural Network for Object Recognition at large scale**, *Journal of Neurocomputing* (Impact factor=4.072).
- Brahim, S., **Ben Aoun, N.**, Ben Amar, C., BENOIT, A., and LAMBERT, P., (2019) **Semantic Segmentation using Reinforced Fully Convolutional DenseNet with Multiscale Kernel**, *Journal of Multimedia Tools and Applications* (Impact factor=2.101).
- Mejdoub, M., **Ben Aoun, N.** and Ben Amar, C., (2015) **Bag of frequent subgraphs approach for image classification**, *Intelligent Data Analysis*, 19 (1), pp. 75-88. (Impact factor=0.772).
- **Ben Aoun, N.**, Mejdoub, M. and Ben Amar, C., (2014) **Graph-based approach for human action recognition using spatio-temporal features**, *Journal of Visual Communication and Image Representation*, 25 (2), pp. 329-338. (Impact factor=2.164).

➤ *Refereed Book Chapters*

- **Ben Aoun, N.**, El'Arbi, M. and, Ben Amar, C., (2012) **Wavelet Transform based motion estimation and compensation for video coding**, *Advances in Wavelet Theory and Their Applications in Engineering, Physics and Technology*, ISBN 979-953-307-385-8, InTech, Dumitru Baleanu (Ed.), pp. 23-40.

➤ *Refereed International Conference Papers (Indexed in IEEE/Scopus/DBLP)*

- Brahim, S., **Ben Aoun, N.** and Ben Amar, C., (2018) **Improved Very Deep Recurrent Convolutional Neural Network for Object Recognition**, International Conference on Systems, Man, and Cybernetics (SMC'18), Miyazaki, Japan.
- Brahim, S., **Ben Aoun, N.**, Ben Amar, C., BENOIT, A., and LAMBERT, P., (2018) **Multiscale Fully Convolutional DenseNet for Semantic Segmentation**,

International Conferences in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG'18), Plzen, Czech Republic.

- Brahim, S., **Ben Aoun, N.** and Ben Amar, C., (2016) **Very Deep Recurrent Convolutional Neural Network for Object Recognition**, International Conference on Machine Vision (ICMV'16), Nice, France.
- **Ben Aoun, N.**, Mejdoub, M. and Ben Amar, C., (2014) **Graph-based video event recognition**, In: the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'14), pp. 1566-1570, Firenze, Italy.
- **Ben Aoun, N.**, Elghazel, H., Hacid, M.S. and Ben Amar, C., (2011) **Graph aggregation based image modeling and indexing for video annotation**, In: 14th International Conference on Computer Analysis of Images and Patterns (CAIP'11), pp. 324-331, Seville, Spain.
- **Ben Aoun, N.**, Elghazel, H. and Ben Amar, C., (2011) **Graph modeling based video event detection**, In: 7th International Conference on Innovations in Information Technology (IIT'11), pp. 114-117, Abu Dhabi, United Arab Emirates.
- Wali, A., **Ben Aoun, N.**, Karray, H., Ben Amar, C. and Alimi, A.M., (2010) **A New System for Event Detection from Video Surveillance Sequences**, In: 12th International Conference on Advanced Concepts for Intelligent Vision Systems (ACIVS'10), pp. 110-120, Sydney, Australia.
- **Ben Aoun, N.**, EL'ARBI, M. and Ben Amar, C., (2010) **Multiresolution motion estimation and compensation for video coding**, In: 10th IEEE International Conference on Signal Processing (ICSP'10), pp. 1121-1124, Beijing, China.

PRESENTATIONS

- **2014: Graph-based video event recognition**, In: the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'14), Firenze, Italy.
- **2011: Graph aggregation based image modeling and indexing for video annotation**, In: 14th International Conference on Computer Analysis of Images and Patterns (CAIP'11), Seville, Spain.
- **2011: Graph modeling based video event detection**, In: 7th International Conference on Innovations in Information Technology (IIT'11), Abu Dhabi, United Arab Emirates.
- **2010: Multiresolution motion estimation and compensation for video coding**, In: 10th IEEE International Conference on Signal Processing (ICSP'10), Beijing, China.

RESEARCH FUNDS/GRANTS

- **2008- 2011 CMCU project, Reconnaissance et Analyse de Visages (RAVI)** between the REGIM laboratory of the National School of Engineers of Sfax (ENIS), University of Sfax and the LIRIS laboratory of the Central School of Lyon (ECL), University of Lyon, France. Subscribed under the code 08G1406.

TEACHING EXPERIENCE

➤ *Teaching graduate and undergraduate courses*

- Systems Administration
- Software Engineering
- Information Systems Project Management
- Data Visualization
- Introduction to Programming
- Computer Organization and Architecture
- Intelligent Systems
- Operating Systems
- Introduction to Programming
- Operating Systems
- Discrete Structures
- Introduction to computing
- Data Visualization
- Image coding and processing
- Operating Systems (Linux 1, Linux 2)
- Operating Systems (Linux)
- Multimedia documents indexing and research techniques
- Operating Systems Level-I
- Certification on Computer Sciences and Internet (C2I)
- Object-oriented Programming (JAVA)
- Design with the UML methodology
- Programming with C language
- Database Management
- Computer Science Generalities

➤ ***Teaching courses development***

- Programming in C
- Introduction to programming
- Linux system Administration
- Intelligent Systems

➤ ***PhD and Bachelor degree students Supervision***

- Co-supervising of **1 PhD Students** about “Object recognition and image classification at large scale” during 2015-2019.
- Supervision of **5 graduation projects** (17 students) at CCS&IT during 2015-2019 to obtain the Bachelor degree in Computer Science.
- Supervision of **7 graduation projects** (14 students) at ISIMS during 2010-2011 to obtain the License degree in Computer Sciences and Multimedia.
- Supervision of **2 graduation projects** (5 students) at FSS during 2008-2009 to obtain a 4-year diploma in computer sciences.
- Supervision of **1 graduation project** (2 students) at FSS during 2008-2009 to obtain the diploma of a higher technician in computer science and communication.

➤ ***Curriculum development***

- **2017-2019** Member of the Programs and Study plans committee of CCS&IT, Albaha university
- **2017-2019** Member of the Information Technology department Study plans committee, CCS&IT, Albaha university.
- **2015-2017** Member of the Computer Science department Study plans committee, CCS&IT, Albaha university.

COMMITTEES

- **2019-2021** College Coordinator for the Accreditation, Quality and Self-Study at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.
- **2016-2019** Member of the Quality and Development Committee at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.

- **2015-2018** **Coordinator of the ABET Accreditation Committee** at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.
- **2017-2019** **Coordinator of the Final Year Projects** at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.
- **2016-2019** **Member of the Programs and Study plans Committee** at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.
- **2016-2017** **Member of the College Website Committee** at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.
- **2015-2016** **Member of the Higher Education Committee** at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.
- **2015-2016** **Member of the Promotion Committee** at the College of Computer Science and Information Technology (CCS&IT), Al-Baha University.
- **2015-2016** **Secretary and Treasurer** of the IEEE Signal Processing Society Tunisia Chapter.
- **2013-2014** **Vice-Chair** of the IEEE Signal Processing Society Tunisia Chapter.
- **2011-2012** **Chair** of the IEEE SPS ENIS Student Chapter.
- **2010-2011** **Treasurer** of the IEEE SPS ENIS Student Chapter.

AWARDS

- **2013** IEEE Appreciation award for the contribution as Vice-chair of the SPS Tunisia Chapter, 2013.
- **2011** Price of the best Poster on the Doctoral Consortium (DC'2011), Sousse, Tunisia.

SERVICE/OTHER RELEVANT EXPERIENCE/PROJECTS

➤ *Organizing Seminars/conferences*

- **2018** Giving a seminar on “How to use the Saudi Digital Library”, CCS&IT, Albaha university.

- **2015** Organization of the training course in “Cloud Computing and its applications”, 22 February 2015 at the Business School of Sfax, Tunisia.
- **2015** Technical committee member of the IEEE International Workshop on Multimedia Signal Processing (MMSP 2015).
- **2014** Program Committee member of the 6th International Conference on Soft Computing and pattern recognition (SoCPaR 2014).
- **2013-2014** Inviting professors in order to present some talks within the IEEE SPS Tunisia chapter.
- **2010-2014** Organizing technical and social activities within the SPS Student Chapter at ENIS during 2010, 2011 and 2012 and within the IEEE SPS Tunisia chapter during 2013 and 2014.
- **2010** Chairman session in the International Conference on Signal Processing, Beijing, China.

➤ **Reviewer for:**

- IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP’2012-2020).
- IEEE Transaction on Multimedia (2017-2019). *Impact Factor=2.536.*
- IEEE International Conference on Visual Communications and Image Processing (VCIP 2016)
- The Journal of Pattern Recognition (2015). *Impact factor = 2.584.*
- The Journal of Visual Communication and Image Representation (2015). *Impact Factor= 1.361.*
- The Journal of Machine Vision and Applications (2013-2014). *Impact factor = 1.103.*
- The Journal of Frontiers of Information Technology & Electronic Engineering (2013). *Impact factor =0.297.*
- The 2015 European Signal Processing Conference (EUSIPCO 2015-2016)
- IEEE International Conference on Multimedia and Expo (ICME 2015)
- Workshop on Intelligent Machines: Theory and applications (WIMTA 2014, WIMTA 2015).
- IEEE International Workshop on Multimedia Signal Processing (MMSP’2013, MMSP’2014, MMSP’2015).
- IEEE Symposium on Computers & Informatics (ISCI 2012).
- The 16th Mediterranean Electrotechnical Conference (MELECON’2012).
- IEEE Conference on Computer Applications & Industrial Electronics (ICCAIE 2011).

PROFESSIONAL DEVELOPMENT

- **2019** Quality and Accreditation trainings, NCAAA, KSA.
- **2018** IELTS preparation, British Council.

- **2018** Blackboard learn system training, Albaha university.
- **2016** Participation to the training course in “Predictive Analytics software SPSS”, Deanship of university development, Al-Baha University, Kingdom of Saudi Arabia.
- **2015** Participation to the training course in “Cloud Computing and its applications”, Sfax, Tunisia.
- **2013** English for academic purposes - Writing Research Articles, ENIS, Sfax
- **2013** English for academic purposes - Listening in academic settings, ENIS, Sfax.
- **2012** Training on “How to write a research project, ISET, Sfax, Tunisia.
- **2010** English for academic purposes - Reading Research Articles, ENIS, Sfax.
- **2009** English for academic purposes - Speaking in academic settings, ENIS, Sfax.
- **2008** English for academic purposes - Languages used in academic settings, ENIS, Sfax.
- **2008** Spring School on "Practice of free software", EPL2, Gammarth, Tunisia.
- **2008-2009** Educational training for teachers organized by the University of Sfax, Tunisia.
- **2007** Winter School on "A document preparation system: LaTeX" (in French), ECO-LATEX, Monastir, Tunisia.
- **2007** Educational Summer School (UPP), ENIS, Sfax, Tunisia.
- **2007** Educational training (CFP), ENIS, Sfax, Tunisia.

<h2 style="margin: 0;">MEMBERSHIP OF PROFESSIONAL SOCIETIES</h2>
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- **2007-Present** Member of the REsearch Groups in Intelligent Machines (REGIM-Lab).
- **2009- Present** Member of the Institute of Electric and Electronic Engineering (IEEE).
- **2009- Present** Member of the IEEE Signal Processing Society (SPS).
- **2014- Present** Member of the International Association for Pattern Recognition (IAPR).
- **2009- Present** Member of the Association for Computing Machinery (ACM).
- **2014- Present** Member of the Machine Intelligence Research Labs (MIRLabs).

- **2012- Present** TC affiliate member of the IEEE SPS Image Video and Multidimensional Signal Processing (IVMSP).
- **2012- Present** TC affiliate member of the IEEE SPS Machine Learning for Signal Processing (MLSP).
- **2012- Present** TC affiliate member of the IEEE SPS Multimedia Signal Processing (MMSP).

Certifications

- **08/2018** English Certification IELTS, British Council
- **01/2018** BlackBoard Learn system, Al-Baha University
- **06/2017** Mobile Application Development, ALECSO
- **04/2014** Linux: LPIC-1 (modules 101 and 102), Linux Professional Institute
- **04/2014** Suse Linux Enterprise 11: Novell Certified Linux Administrator, Linux Professional Institute

REFERENCES