



Taoufik Saidani

Ph.D. in Computer Sciences Engineering

- December 10, 1979
- Laboratory of Electronic and Micro-electronic FSM , 7000, Monastir, Tunisia
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About Me

Taoufik Saidani received his ph.D degree in Computer engineering from Faculty of Science of Monastir University, Tunisia, in 2014. His major research interests include VLSI and embedded system in video and image compression specially JPEG2000 for image compression and H264 for video coding. His current research interests include deep learning,image and video processing and hardware-software co-design for rapid prototyping in Embedded Systems.

Social Network

- Taoufik-Saidani
- @taoufiki2v
- Taoufik Saidani
- Taoufik Saidani

Education

Study

- 2008 – 2014 **Ph.D. in Computer Engineering** University of Monastir
Contribution to the design of a compression SoC Color images for transmission at very low Rate.
- 2005 – 2008 **M.Sc. in Electronic and Microelectronic** University of Monastir
Implementation of the EBCOT algorithm for the video coding.
Mention: Honorable
- 2000 – 2005 **B.Sc. in Electronic** University of Monastir
Designing a TV using a ISIS Tools.
Mention: Honorable

Experience

Teaching

- 2014 – now **Assistant professor** Northern borders University
Faculty of Computing and Information Technology.
- 2013 – 2014 **Assistant professor** Gabes University
ISSIG.
- 2008 – 2013 **Teaching Assistant** Monastir University
ISIMM

Courses

- 2015–2022 Computer graphics
- 2015–2022 Multimedia Technology
- 2015–2022 Digital Logic Design
- 2019–2021 Introduction to Computers sciences
- 2015–2022 Computer Architecture and organization
- 2015–2022 Computer Architecture
- 2020–2023 General Physics
- 2020 Applied Mathematics for Computing
- 2010–2013 FPGA Prototyping
- 2010–2013 Embedded Systems
- 2008–2013 Electrical Circuits
- 2008–2013 Electronic Systems
- 2010–2013 VHDL language
- 2010–2013 High level Synthesis :HDL coder

Committees

- 2020–2022 Head of Quality and Accreditation Unit FCIT
- 2022–now Head of KPIs and Statistics for scientific research deanship NBU
- 2022–2023 **Consultant of the dean faculty for Quality and Academic Accreditation** FCIT
- 2020–2023 Member of the executive committee for Quality FCIT
- 2018–2022 Member of the scientific research Committee FCIT
- 2020–2023 Head of the conferences committee NBU
- 2020–2023 Head of the Symposiums committee NBU
- 2022–2023 Member of CS Program development committee FCIT
- 2022–2023 Member of FCIT Study Systems and Plans Committee FCIT
- 2022–2023 Member of Program Internal Revision for committee NBU
- 2021–2022 Member of NCAAA standard 1 committee NBU
- 2018–2022 Member of Quality and Accreditation Committee for Computer Sciences Department FCIT
- 2018–2022 Member of Student Activities for Computer Committee FCIT

Taoufik Saidani

Ph.D. in Computer Sciences Engineering

Soft Skills

- Electronic systems-solving
- Image and video coding
- Arithmetic coding for JPEG2000
- H264 for video coding
- FPGA Co-design

Technical Skills

- Operating systems
 - Windows 11
 - Mac OS
 - Linux
- Programming languages
 - MATLAB
 - VHDL
 - Arduino
 - Python
- deep Learning frameworks
 - TensorFlow
 - MATLAB
- Other suites
 - MATLAB and XILINX VIVADO
 - Google Workspace
 - Microsoft Office,One Drive
 - LaTeX,Overleaf
 - Power Bi
 - Proteux ISIS
 - Xilinx ISE
 - MATLAB:HDLCODER
 - SIMULINK

Languages

- Arabic
- French
- English

Workshops

2022	Web of Sciences Journals	Northern Borders University
2022	NCAAA Accreditations	Northern Borders University
2021	Teaching learning strategies	Northern Borders University
2022	Program specification	Northern Borders University
2022	Blackboard Exam Preparation	Northern Borders University
2021	Scientific research	Northern Borders University
2022	Courses Specification	Northern Borders University

University Funded Scientific Research projects

2017	Design of a High Speed Architecture of MQ-Coder for JPEG2000 on FPGA <i>Taoufik Saidani,Hafedh Zayani</i> Project Number 5718
2017	Design of High speed and dynamic architecture for color conversion with FPGA for real time processing <i>Taoufik Saidani,Hafedh Zayani</i> Project Number 6888
2018	Design of embedded architecture for pedestrian detection in image and video <i>Taoufik Saidani,Yahia Said</i> Project Number 7037
2018	Design of Objects Detection System using Deep Learning Algorithms <i>Taoufik Saidani,Yahia Said</i> Project Number 7432
2019	A Vehicle Plate Recognition System Based on Deep Learning Algorithms <i>Taoufik Saidani,Yamen El Touati</i> Project Number 7617
2022	Embedded Plant Disease Recognition using Deep PlantNet on FPGA-SoC <i>Taoufik Saidani,Refka Ghodhbani</i> Project Number 11447617
2022	Deploying Deep Learning Networks-based Advanced Techniques for Image Processing on FPGA Platform <i>Refka Ghodhbani,Taoufik Saidani,Hafedh Zayani</i> Project Number 11447617

Paper Journal Reviewer

2023	Journal of Supercomputing	1 paper
	The Position-Based Compression Techniques for DNN Model	
2022	Neural Processing Letters Journal	1 paper
	Performance-Efficiency Comparisons of Channel Attention Modules for ResNets	
2022	IEEE Access Journal	1 paper
	Algorithms to Speed Up Contour Tracing in Real Time Image Processing Systems	
2022	IEEE Access Journal	1 paper
	Deep Pipeline Architecture for Fast Fractal Colour Image Compression Utilizing Inter-colour Correlation	
2022	IEEE Access Journal	1 paper
	Evaluating Erasure Codes in Dicoogle PACS	
2021	IEEE Access Journal	1 paper
	Design Methodology for High-Speed, High-Resolution Universal Radar Target Echo Simulator with HILS Capability	
2022	International Journal of Advanced Computer Science and Applications (IJACSA)	3 papers
	Major areas in computer science and engineering	
2021	International Journal of Advanced Computer Science and Applications (IJACSA)	3 papers
	Major areas in computer science and engineering	
2020	International Journal of Advanced Computer Science and Applications (IJACSA)	3 papers
	Major areas in computer science and engineering	
2019	International Journal of Advanced Computer Science and Applications (IJACSA)	3 papers
	Major areas in computer science and engineering	

Journal Papers

- 2022 **Hardware Acceleration of Video Edge Detection with Hight Level Synthesis on Xilinx Zynq Platform**
Taoufik Saidani, Refka Ghodhbani
Engineering, Technology and Applied Science Research (ETASR)
- 2021 **Desertification Detection in Makkah Region based on Aerial Images Classification**
Yahia Said, Mohammad Barr, Taoufik Saidani, Mohamed Atri
Computer Systems Science and Engineering
- 2020 **Photonics components design optimization using genetic algorithm**
Hafedh Zayani, Faouzi Bahloul, Taoufik Saidani
Optical Engineering
- 2021 **A vehicle plate recognition system based on deep learning algorithms**
Taoufik Saidani, Yamen El Touati
Multimedia Tools and Applications journal:Springer
- 2020 **Fast FPGA Prototyping based Real-Time Image and Video Processing with High-Level Synthesis**
AuthorsRefka Ghodhbani, Layla horrigue, Taoufik Saidani, Mohamed Atri
International Journal of Advanced Computer Science and Applications (IJACSA)
- 2021 **A Parallel Genetic Algorithm for Solving Deadlock Problem within Multi-Unit Resources Systems**
Rabie Ahmed, Taoufik Saidani, Malek Rababa
JInternational Journal of Computer Science and Network Security (IJCSNS)
- 2018 **GPU Acceleration of Image Processing Algorithm Based on Matlab CUDA**
Layla horrigue, Refka Ghodhbani, Taoufik Saidani, Mohamed Atri.
International Journal of Computer Science and Network Security (IJCSNS)
- 2017 **Design of embedded architecture for pedestrian detection in image and video**
Taoufik Saidani, Yahia Said
International Journal of Computer Science and Network Security (IJCSNS)
- 2018 **Design of High speed and dynamic architecture for color conversion with FPGA for real time processing**
Taoufik Saidani, Hafedh Zayani
International Journal of Computer Science and Network Security (IJCSNS)
- 2017 **Design of a High Speed Architecture of MQ-Coder for JPEG2000 on FPGA**
Taoufik Saidani, Hafedh Zayani
International Journal of Advanced Computer Science and Applications (IJACSA)
- 2017 **Implementation of the RN Method on FPGA using Xilinx System Generator for Nonlinear System Regression**
Intissar SAYEHI, Okba TOUALI, Taoufik Saidani, Belgacem Bouallegue, Mohsen Machout
International Journal of Advanced Computer Science and Applications (IJACSA)
- 2017 **Analysis and VLSI High Speed of Parallel Causal EBCOT Architecture for Image Compression**
Refka Ghodhbani, Taoufik Saidani, Layla horrigue, Mohamed Atri
WSEAS TRANSACTIONS on SIGNAL PROCESSING
- 2017 **An efficient pass-parallel architecture for embedded block coder in JPEG 2000**
Refka Ghodhbani, Taoufik Saidani, Layla horrigue, Mohamed Atri
Journal of Real-Time Image Processing :Springer

Journal Papers

- 2014 **An efficient hardware implementation of MQ decoder of the JPEG2000**
Layla horrigue, Taoufik saidani, Refka Ghodhbani, Mohamed Atri
Microprocessor and Microsystem:Elsevier
- 2015 **Embedded Architecture for Real-Time Video Processing**
Yahia Said, Taoufik Saidani, Mohamed Atri
International journal of Imaging and for Image Processing
- 2015 **FPGA-based Architectures for Image Processing using High-Level Design**
Yahia Said, Taoufik Saidani, Mohamed Atri
WSEAS Transactions on Signal Processing
- 2013 **An efficient hardware implementation of parallel EBCOT algorithm for JPEG 2000**
Taoufik Saidani, Mohamed Atri, Lazhar Khriji, Rached Tourki
Journal of Real-Time Image Processing:Springer

Book Chapter

- 2010 **Using xilinx system generator for real time hardware co-simulation of video processing system**
Taoufik Saidani, Mohamed Atri, Dhaha Dia, Rached Tourki
Electronic Engineering and Computing Technology page 227-236
Springer Netherlands

Conferences proceeding

- 2012 **Real time FPGA acceleration for discrete wavelet transform of the 5/3 filter for JPEG 2000**
Taoufik Saidani, Mohamed Atri, Yahia Said, Rached Tourki
2012 6th International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT)
- 2008 **Implementation of JPEG 2000 MQ-coder**
Taoufik Saidani, Mohamed Atri, Rached Tourki
2008 3rd International Conference on Design and Technology of Integrated Systems in Nanoscale Era
- 2012 **FPGA-based Architectures for Image Processing using High-Level Design**
Embedded real-time video processing system on FPGA
Yahia Said, Taoufik Saidani, Fethi Smach, Mohamed Atri, Hichem Snoussi
Image and Signal Processing: 5th International Conference, ICISP 2012, Agadir, Morocco, June 28-30, 2012. Proceedings 5
- 2009 **Hardware co-simulation for video processing using xilinx system generator**
Taoufik Saidani, D Dia, Wajdi Elhamzi, Mohamed Atri, R Tourki
Proceedings of the World Congress on Engineering: London
- 2009 **Multi-level discrete wavelet transform architecture design**
Dhaha Dia, Medien Zeghid, Taoufik Saidani, Mohamed Atri, Belgacem Bouallegue, Mohsen Machhout, Rached Tourki
Dhaha Dia, Medien Zeghid, Taoufik Saidani, Mohamed Atri, Belgacem Bouallegue, Mohsen Machhout, Rached Tourki:London
- 2013 **An FPGA-based smart camera system**
Y Said, Taoufik Saidani, F Smach, M Atri, H Snoussi
Third International IEEE Conference (IPWIS'13)