

CURRICULUM VITÆ

Souhir BOUAZIZ AFFES

PERSONAL INFORMATION

- **Name:** Souhir BOUAZIZ AFFES
- **Date and place of Birth:** 30/09/1984 at Sfax, Tunisia
- **Civil situation:** Married
- **Nationality:** Tunisian
- **Professional address:** REGIM-Lab., University of Sfax, National Engineering School of Sfax (ENIS), BP 1173, Sfax 3038, Tunisia
- **Postal address :** PO Box 396, Sidi Abbes 3062, Sfax, Tunisia
- **Email :** souhir.bouaziz@isims.usf.tn,
souhir.bouaziz@regim.usf.tn
- **Website:** <http://www.regim.org/membres/souhirbouaziz>
- **Tel :** (+216) 22 172 000
- **Professional activities:** Associate Professor in the higher institute of computer science and multimedia of Sfax, ISIM-Sfax, University of Sfax, Since September 2018.



DIPLOMAS

- **October 2022: HdR degree on Computer System Engineering (ISI), ENIS, University of Sfax, Tunisia**
 - **Title:** Multi-agent Architecture for Evolutionary Multi-objective Optimization of Intelligent Systems
 - **Lab.:** REGIM-Lab. (*REsearch Groups in Intelligent Machines*)
 - **Defense date:** 22 October 2022
 - **Mention:** Very Honorable
- **February 2010 - February 2014 : PhD degree on Computer System Engineering (ISI), ENIS, University of Sfax, Tunisia**
 - **Title:** Desining and Evolving Flexible Beta Basis Function Neural Tree Model by Evolutionary Computation
 - **Advisor:** Adel M. Alimi, Professor, ENIS, University of Sfax (Tunisia)
 - **Lab.:** REGIM-Lab. (*REsearch Groups in Intelligent Machines*)
 - **Defense date:** 01 February 2014
 - **Mention:** Very Honorable
- **September 2007 - June 2009 : Master's degree in New Technologies of Dedicated Computer Systems (NTSID), ENIS, University of Sfax, Tunisia**
 - **Option:** Processing & Analysis of Multimedia Information
 - **First year rank:** Major of the promotion
 - **Title:** Offline Recognition of Arabic Handwritten Characters and Words with Wide Vocabulary by Analytical Approach.
 - **Advisor:** Slim Kanoun, Senior Lecturer, ENIS, University of Sfax (Tunisia)
 - **Lab.:** REGIM-Lab.
 - **Defense date:** June 2009
 - **Mention:** Very good
- **Semptember 2005 – June 2008 : National Diploma in Computer Engineering, ENIS, Universityof Sfax, Tunisia**
 - **Option:** Engineering of Intelligent Systems (ISI)
 - **Title:** Design and Implementation of Arabic Character Recognition System: comparative Study of the Characteristics and the Statistical Classifiers.
 - **Advisor:** Slim Kanoun, Senior Lecturer, ENIS, University of Sfax (Tunisia)
 - **Lab.:** REGIM-Lab.
 - **Project Graduation's mention:** Very good
 - **Last year's mention outside Project Graduation:** Good (Medium: 15.17)

- **September 2003 – June 2005 : Competition of access to engineering schools, Sfax Preparatory Engineering Institute (IPEIS), University of Sfax, Tunisia**
 - **Speciality:** Math and Physique (MP)
 - **Date:** June 2005
- **June 2003 : Baccalaureate Diploma, Math Section, Secondary school Mahmoud Megdich, Sfax, Tunisia**
 - **Mention:** Good (Medium: 14.70)
 - **Date:** June 2003

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| PUBLICATIONS |
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- **Articles published in international journals :**

- [J1] Y. Jarraya, **S. Bouaziz**, A.M. Alimi, and A. Abraham, “Hierarchical fuzzy design by a multi-objective evolutionary hybrid approach”, *Soft Computing*, vol. 24, No. 5, pp. 3615-3630, January 2020.
- [J2] Y. Jarraya, **S. Bouaziz**, H. Hagrass, and A.M. Alimi, “A Multi-Agent Architecture for the Design of Hierarchical Interval Type-2 Beta Fuzzy System”, *IEEE Transactions on Fuzzy Systems*, vol. 27, Issue 6, pp. 1174 - 1188, June 2019.
- [J3] Y. Jarraya, **S. Bouaziz**, A.M. Alimi, “Hierarchical Flexible Beta Fuzzy Design by a Multi-Objective Evolutionary Hybrid Approach”, *IEEE Access*, vol. 6, pp. 11544-11558, March 2018.
- [J4] **S. Bouaziz**, H. Dhahri, A.M. Alimi, and A. Abraham, “Evolving Flexible Beta Basis Function Neural Tree Using Extended Genetic Programming & Hybrid Artificial Bee Colony”, *Applied Soft Computing*, vol. 47, pp. 653–668, October 2016.
- [J5] M. Ammar, **S. Bouaziz**, A.M. Alimi, and A. Abraham, “Multi-Agent architecture for Multi-objective optimization of Flexible Neural Tree”, *Neurocomputing*, vol. 214, pp. 307–316, November 2016.
- [J6] **S. Bouaziz**, H. Dhahri, A.M. Alimi, and A. Abraham, “A Hybrid Learning Algorithm For Evolving Flexible Beta Basis Function Neural Tree Model”, *Neurocomputing*, vol. 117, pp. 107-117, 6 October 2013.

- **Communications in international conferences with actes:**

- [C1] Y. Jarraya, **S. Bouaziz**, and A.M. Alimi, “Evolutionary Multi-Objective based Hierarchical Interval Type-2 Beta Fuzzy System for classification problems”, *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE’2017)*, Naples, Italy, July 09-12 2017. *IEEE Computational Intelligence Society: Oral presentation.*
- [C2] M. Ammar, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Recurrent flexible neural tree model for time series prediction”, *16th International Conference on Hybrid Intelligent Systems (HIS’2016)*, pp. 58-67, Marrakech, Morocco, November 21-23 2016. *Springer: Oral presentation.*

- [C3] Jarraya, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Evolutionary Hierarchical Fuzzy modeling of Interval Type-2 Beta Fuzzy Systems”, IEEE International Conference on Systems, Man, and Cybernetics (SMC’2016), Budapest- Hungary, October 09-12 2016. IEEE Systems, Man, and Cybernetics Society.
- [C4] M. Ammar, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Negotiation process for bi-objective multi-agent flexible neural tree model”, International Joint Conference on Neural Networks (IJCNN’2015), Killarney- Ireland, July 12-17 2015. IEEE Computational Intelligence Society & International Neural Network Society – INNS.
- [C5] Y. Jarraya, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Evolutionary Multi-objective Optimization for Evolving Hierarchical Fuzzy System”, IEEE Congress on Evolutionary Computation (IEEE-CEC’2015), Sendai- Japan, May 25-28 2015. IEEE Computational Intelligence Society.
- [C6] **S. Bouaziz**, A.M. Alimi and A. Abraham, “PSO-based update memory for Improved Harmony Search algorithm to the evolution of FBBFNT’ parameters”, IEEE Congress on Evolutionary Computation (IEEE-CEC’2014), Beijing- China, July 06-11 2014. IEEE Computational Intelligence Society: *Oral presentation*.
- [C7] **S. Bouaziz**, A.M. Alimi and A. Abraham, “Universal Approximation Propriety of Flexible Beta Basis Function Neural Tree”, International Joint Conference on Neural Networks (IJCNN’2014), Beijing- China, July 06-11 2014. IEEE Computational Intelligence Society: *Oral presentation*.
- [C8] M. Ammar, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Multi-agent Evolutionary design of Flexible Beta Basis Function Neural Tree”, International Joint Conference on Neural Networks (IJCNN’2014), Beijing- China, July 06-11 2014. IEEE Computational Intelligence Society.
- [C9] Y. Jarraya, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Multi-Agent Evolutionary Design of Beta Fuzzy Systems”, IEEE International Conference on Fuzzy Systems (FUZZ-IEEE’2014), Beijing- China, July 06-11 2014. IEEE Computational Intelligence Society.
- [C10] **S. Bouaziz**, A. Mezghani, S. Kanoun, “Arabic handwritten word recognition with large vocabulary based on explicit segmentation”, International Conference on Information and Communication Technologies Innovation and Application (ICTIA’2014), Sousse-Tunisia, March 06-08 2014. IEEE.
- [C11] Y. Jarraya, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Fuzzy Modeling System based on Hybrid Evolutionary Approach”, Thirteenth International Conference on Hybrid Intelligent Systems (HIS’2013), Tunisia, December 04-06 2013. IEEE.
- [C12] Y. Jarraya, **S. Bouaziz**, A.M. Alimi and A. Abraham, “The Adaptive Chemotactic Foraging with Differential Evolution algorithm”, Fifth World Congress on Nature and Biologically Inspired Computing (NaBIC’2013), pp. 63–68, Fargo-USA, August 12-14 2013. IEEE : *Oral presentation*.

- [C13] M. Ammar, **S. Bouaziz**, A.M. Alimi and A. Abraham, “Hybrid Harmony Search algorithm for Global Optimization”, Fifth World Congress on Nature and Biologically Inspired Computing (NaBIC’2013), pp. 69-75, Fargo-USA, August 12-14 2013. IEEE: *Oral presentation*.
- [C14] **S. Bouaziz**, A.M. Alimi and A. Abraham, “Evolving Flexible Beta Basis Function Neural Tree for nonlinear systems”, International Joint Conference on Neural Networks (IJCNN’2013), pp. 1-8, Dallas Texas, August 4-9 2013. IEEE Computational Intelligence Society.
- [C15] **S. Bouaziz**, A.M. Alimi., A. Abraham, “Extended Immune Programming and Opposite-based PSO for Evolving Flexible Beta Basis Function Neural Tree”, IEEE International Conference on Cybernetics of IEEE SMC (CYBCONF’2013), pp. 13–18, Lausanne Switzerland, June 13-15 2013. IEEE SMC Society: *Oral presentation*.
- [C16] Y. Jarraya, **S. Bouaziz**, A.M. Alimi, A. Abraham, “A Hybrid Computational Chemotaxis in Bacterial Foraging Optimization Algorithm for Global Numerical Optimization”, IEEE International Conference on Cybernetics of IEEE SMC (CYBCONF’2013), pp. 213-218, Lausanne Switzerland, June 13-15 2013. IEEE SMC Society: *Oral presentation*.
- [C17] **S. Bouaziz**, S. Kanoun, A. Mezghani, “Handwritten Arabic word recognition with wide vocabulary”, In Traitement et Analyse de l'Information: Méthodes et applications (TAIMA’13), Hammamet- Tunisia, May 2013.
- [C18] A. Mezghani, S. Kanoun, **S. Bouaziz**, M. Khemakhem, H. El Abed, “Baseline Estimation in Arabic Handwritten Text-Line - Evaluation on AHTID/MW Database”, 2nd International Conference on Pattern Recognition Applications and Methods (ICPRAM’2013), pp. 430-434, Barcelona (Spain), February 15-18 2013.
- [C19] M. Gargouri, S. Kanoun, F. Slimane, **S. Bouaziz**, “Arabic Character Recognition based on Statistical Features - A Comparative Study”, 2nd International Conference on Pattern Recognition Applications and Methods (ICPRAM’2013), pp. 281-284, Barcelona (Spain), February 15-18 2013.
- [C20] M. Ammar, **S. Bouaziz**, A.M. Alimi, “The new hybridization between Harmony Search and Differential Evolution algorithms”, International conference on Metaheuristic and Nature Inspired Computing (META’2012): *Oral presentation*, Port El-Kantaoui, Sousse-Tunisia, October 27-31 2012.
- [C21] Y. Jarraya, **S. Bouaziz**, A.M. Alimi, “Adaptive Bacterial Foraging Swarm Optimization with Chemotactic Differential Evolution Algorithm”, International conference on Metaheuristic and Nature Inspired Computing (META’2012): *Oral presentation*, Port El-Kantaoui, Sousse-Tunisia, October 27-31 2012.
- [C22] **S. Bouaziz**, H. Dhahri, A.M. Alimi, “Evolving Flexible Beta Operator Neural Trees (FBONT) for Time Series Forecasting”, 19th International Conference in neural

information Processing (ICONIP'2012): *Oral presentation*, Part III, Series: Lecture Notes in Computer Science, Springer-Verlag, vol. 7665, pp. 17-24, Doha-Qatar, November 12-15 2012.

SCIENTIFIC ACTIVITIES

- Reviewer for the journal "Applied Soft Computing" (ASOC), since **October 2023**.
- **MECBME'2018**: "4th IEEE Middle East Conference on Biomedical Engineering", **March 28-30 2018**, Gammarth – Tunis, Tunisia. <http://mecbme.ieee.tn/>
- Reviewer for the journal "International Journal of Intelligent and Fuzzy Systems" (IJIFS), since **August 2017**.
- Reviewer for the journal "International Journal of Image & Graphics" (IJIG), since **May 2014**.
- Reviewer for the journal "International Journal of Systems Science" (IJSS), since **November 2013**.

PARTICIPATION IN SEMINARS AND TRAINING

- **Workshop « Montage de Projets CBHE Erasmus+ selon la norme ISO 21500 »**, 02 November **2019**, ISET-Sfax, Tunisia.
- **Workshop « IEEE Virtual Events Program in Africa: Big Data 2017 »**, May 22 2017, Digital Research Centre of Sfax, Tunisia.
- **SS-CITA'2016**: "3rd IEEE CIS School on Computational Intelligence - Theory and Applications", November 17-20 2016, Gammarth, Tunisia.
- **WIMTA'2015**: "Workshop on Intelligent Machines : Theory & Applications", December 25-28 2015, Mahdia, Tunisia.
- **WIMTA'2014**: "Workshop on Intelligent Machines : Theory & Applications", December 25-28 2014, Sousse, Tunisia.
- **SS-CITA'2014**: "1st IEEE CIS School on Computational Intelligence - Theory and Applications", August 17-20 2014, Gammarth, Tunisia.
- **WIMTA'2012**: "Workshop on Intelligent Machines : Theory & Applications", December 20-23 2012, Monastir, Tunisia.
- **WIMTA'2011**: "Workshop on Intelligent Machines : Theory & Applications", December 18- 21 2011, Hammamet, Tunisia.
- **Formation « Application of research methodologies in information systems research »** du projet "PARENIS", December 08-10 2011, University of Sfax, Tunisia.
- **LWS'2011**: "Leadership Winter School", December 18-22 2011, Hammamet, Tunisia.
- Participation in the "*1st edition of the industry day 4.0*", **03 May 2017**, Sfax, Tunisia.
- Participation in the pedagogical training "*Panorama of some configurations in terms of inverted classes*", **01 April 2017**, Sfax, Tunisia.
- Participation in the training "*Workshop in Advanced Programming with Python*" (WPAP'2016), **June 02-03 2016**, Sfax, Tunisia.

- Participation in a trainer training "*Trainer Designer*", **June 30, 2015**, Sfax, Tunisia.
- Participation in a trainer training "*Efficient Trainer*", **June 26, 2015**, Sfax, Tunisia.
- Participation in a training session on the theme "**Requirements of ISO 9001 version 2008 and principles of FD X50-550**", **July 10-11 2014**, Sfax, Tunisia.
- Participation in three pedagogical trainings for new assistants and assistant professors, **November 17-26 2014**, Gabes, Tunisia:
- Participation in *the pedagogical training cycle for contract assistants*, **January 2009**, Sfax, Tunisia.
- Participation in pedagogical training "*The Spring University of Pedagogy*", June 2008, Sfax, Tunisia.
- Participation in an English training, "*Lisning Research Articles*", **December 2012**, ENIS, University of Sfax, Tunisia.
- Participation in an English training, "*Speaking Research Articles*", **December 2012**, ENIS, University of Sfax, Tunisia.
- Participation in an English training, "*Reading Research Articles*", **January 2012**, ENIS, University of Sfax, Tunisia.
- Participation in an English training, "*Writing Research Articles*", **January 2012**, ENIS, University of Sfax, Tunisia.
- Participation in a training "*Language used in academic settings*", **January 2009**, ENIS, University of Sfax, Tunisia.

PEDAGOGICAL ACTIVITIES

- **September 2018: Assistant Professor at the higher computer science and multimedia of Sfax (ISIM-Sfax)**

During this period, I assured courses, tutorials and practical work.

❖ *Courses :*

- Data Analysis and DataMining
- Knowledge Engineering and DataMining Techniques
- Knowledge Management
- Complex Systems and Network Constructions
- Object Oriented Design Methodology
- Dynamic Web Programming
- Games Graphics
- Digital Skills

❖ *Tutorials :*

- Dynamic Web Programming
- Object Oriented Design Methodology
- Algorithms and Data Structures II

- **2013- 2017 : Assistant professor at the higher institute of applied sciences and technology of Gabes (ISSAT-Gabes)**

During this period, I assured courses, tutorials and practical work.

❖ **Courses :**

- Algorithms and Development Environment Python 3
- Information System and ICT
- Algorithms and Programming with Maple

❖ **Tutorials :**

- Algorithms and Development Environment Python 3
- Algorithms and Programming with Maple

❖ **Practical work:**

- Algorithms and Development Environment Python 3
- Information System and ICT
- Algorithms and Programming with Maple

- **2009-2013 : Contract Assistant at Department of Computer Engineering and Applied Mathematics of ENIS**

During this period, I assured courses and practical work.

❖ **Courses :**

- Classification and Pattern Recognition
- Software Engineering Workshop

❖ **Practical work:**

- Artificial Intelligence
- Programming Language C
- Human / Machine Interface
- Software Engineering Workshop

- **2008-2009 : Contract of Researcher Student at Department of Computer Engineering and Applied Mathematics of ENIS**

During this period, I assured practical work.

❖ **Practical work:**

- Development Environment
- Programming Language C
- Software Engineering Workshop

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| SUPERVISION ACTIVITIES |
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- **Co-supervision of theses:**

- **Subject 1:** Interval type-2 Fuzzy-Based CNN for Fake News Detection

Year of first registration: October 2023

Establishment: National Engineering School of Sfax

- **Subject 2:** Multi-Agent based Parallel Learning of Feed-forward and Recurrent Flexible Neural Graph
Defense date: 06 April 2019
Establishment: National Engineering School of Sfax
- **Subject 3:** Multi-Agent Architecture for Evolutionary Multi-Objective Optimization of Hierarchical Type-2 Beta Fuzzy Systems
Defense date: 27 October 2018
Establishment: Faculty of Economics and Management of Sfax
- **Co- supervision of research master projects:**
 - **Subject 1:** Community Detection in Social Networks with Improved Particle Swarm Optimization
Defense date: 12/05/2023
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
 - **Subject 2:** Adaptation of Differential Evolution Algorithm Parameters Based on Type-2 Fuzzy Logic Controller
Defense date: 18/11/2022
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
 - **Subject 3:** Complex-valued encoding Harmony search algorithm for solving optimization problems
Defense date: 18/11/2022
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
 - **Subject 4:** Novel Bi-objective Evolutionary Programming for Artificial Neural Network Learning
Academic year: In progress
Establishment: Higher Institute of Computer Science and Multimedia Gabes
 - **Subject 5:** Hybridization of a new global optimization algorithm inspired by the Bacterial Foraging Optimization Algorithm (BFOA) comparative study
Academic year: 2011/2012
Establishment: National Engineering School of Sfax
 - **Subject 6:** Hybridization between Harmony Search algorithm and other nature-inspired algorithms: Differential Evolution and Particle Swarm Optimization
Academic year: 2011/2012
Establishment: National Engineering School of Sfax
- **Supervision of Graduation Projects:**
 -
 - **Subject 1:** ‘Mise en place d'un système décisionnel pour optimiser la gestion commerciale d'un magasin’
Academic year: 2022/2023
Establishment: Higher Institute of Computer Science and Multimedia of Sfax

- **Subject 2:** ‘Conception et développement d’une application web et mobile d’une marketplace pour les agences de voyage’
Academic year: 2022/2023
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 3:** ‘Conception et développement d’une application Web de gestion de centre de formation’
Academic year: 2022/2023
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 4:** Development of an augmented reality application for interior design
Academic year: 2020/2021
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 5:** ‘Conception et Développement d’une Plateforme pour l’Enseignement à Distance’
Academic year: 2020/2021
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 6:** ‘Etude des outils de Référencement Web’
Academic year: 2020/2021
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 7:** ‘Conception et Réalisation d’un site web dynamique de vente en ligne des aliments et accessoires pour animaux’
Academic year: 2020/2021
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 8:** ‘Application mobile de E-commerce « Find it »’
Academic year: 2018/2019
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 9:** ‘Conception et Développement d’une application Web CRM’
Academic year: 2018/2019
Establishment: Higher Institute of Computer Science and Multimedia of Sfax
- **Subject 10:** Design and development of a mobile application for scientific computing and function optimization
Academic year: 2016/2017
Establishment: Higher Institute of Computer Science and Multimedia Gabes
- **Subject 11:** Design and Development of a mobile application for carpooling in Tunisia
Academic year: 2016/2017
Establishment: Higher Institute of Computer Science and Multimedia Gabes

- **Subject 12:** Offline recognition of Arabic manuscript characters by combination of classifiers
Academic year: 2011/2012
Establishment: National Engineering School of Sfax
- **Subject 13:** Design and implementation of a clinic management system
Academic year: 2009/2010
Establishment: National Engineering School of Sfax

AFFILIATIONS

- **Since December 2009:** Member of Institute of Electrical and Electronics Engineering (IEEE) with subscription:
 - **Since December 2009:** Member of IEEE Women in Engineering Membership.
 - **Since October 2012:** Member of IEEE Computational Intelligence Society.

INTERNSHIPS

- **1 October -15 November 2010: Research Internship**
 - *Lab. :* Laboratory L3i, Pole Science and Technology, University of La Rochelle, Mr. Crépeau Avenue, 17042, La Rochelle cedex01.
 - *Project :* Project Franco-Tunisian cooperation, joint committee of university cooperation (CMCU) Pirana.
 - *Advisor of the internship at L3i :* Mr. Jean-Marc Ogier
- **15 January-15 February 2007: Technician internship**
 - *Society :* Biotechnology Centre of Sfax, road Sidi Mansour Sfax, Tunisia.
 - *Subject :* Developing a computerized maintenance management system.
- **12 June-12 July 2006: Worker internship**
 - *Society :* Cisen Computer, Avenue Majida Boulila, Sfax, Tunisia.

LANGUAGES

- **Arabic:** Read, spoken and written.
- **French:** Read, spoken and written.
- **English:** Read, spoken and written.