



AMNA ALAZHAR BENMOHAMMED



Appartment 423, Habib Bourghiba Building, Zarroug,
Gafsa, Tunisia.
Sahab onaizah, R18, Onaizah, Elqassim, KSA.



emna.benmohamed@enis.tn
Emna.benmohamed@oc.edu.sa



+966 057 033 0827
+216 98912312

PROFESSIONAL SUMMARY

As a PhD holder in Computer Science, I have extensive experience in decision-making, visual analytics, data visualization, and cognitive modeling, with a keen focus on Artificial Intelligence, particularly machine learning and pattern recognition. My research in these areas features numerous published journal and conference papers, highlighting my contributions and research impact. Furthermore, I have actively participated in several workshops related to our Laboratory-REsearch Groups in Intelligent Machines (REGIM).

In addition to my academic achievements, I have obtained multiple certifications, including Oracle certification (java: OCAJ, OCP), which demonstrate my commitment to continuing education and professional development in the field of computer sciences.

WORK HISTORY

-Cybersecurity department of Onaizah Private Colleges
18/09/2022-Current
Onayzah-Elkassim-Kingdom of Saudi Arabia (KSA)
-Computer sciences department in College of Sciences of Gafsa
12/09/2008-30/08/2022
Gafsa-Tunisia

EDUCATION

PhD Degree:

University of Sfax, National School of Engineers of Sfax
03-04-2021

Master's degree:

University of Sfax, Faculty of Economics and Management of
Sfax
2014

Bachelor degree:

University of Sfax, Faculty of Sciences of Sfax
2007

AFFILIATIONS

- REsearch Groups in Intelligent Machines, University of Sfax, National School of Engineers (ENIS), BP 1173, Sfax, 3038, Tunisia.
- Department of Cyber Security, College of Engineering and Information Technology, Onaizah Colleges, P.O. Box 5371, Onaizah, Kingdom of Saudi Arabia.

PUBLICATIONS

- 1- Mohamed, E. B., Ltifi, H., & Ayed, M. B. (2013, December). Using visualization techniques in knowledge discovery process for decision making. In 13th International Conference on Hybrid Intelligent Systems (HIS 2013) (pp. 93-98). IEEE.
- 2- Mohamed, E. B., Ltifi, H., & Ayed, M. B. (2014). Integration of temporal data visualization techniques in a KDD-based DSS application in the medical field. *Journal of Network and Innovative Computing*, 2(2014), 061-070.
- 3- Benmohamed, E., Ltifi, H., & Ayed, M. B. (2015, November). Using Bloom's taxonomy to enhance interactive concentric circles representation. In 2015 IEEE/ACS 12th International Conference of Computer Systems and Applications (AICCSA) (pp. 1-8). IEEE. <https://doi.org/10.1109/aiccsa.2015.7507208>
- 4- Ltifi, H., Ben Mohamed, E., & ben Ayed, M. (2016). Interactive visual knowledge discovery from data-based temporal decision support system. *Information Visualization*, 15(1), 31-50. <https://doi.org/10.1177/1473871614567794>
- 5- Ltifi, H., Benmohamed, E., Kolski, C., & Ayed, M. B. (2016). Enhanced visual data mining process for dynamic decision-making. *Knowledge-Based Systems*, 112, 166-181. <https://doi.org/10.1016/j.knosys.2016.09.009>.
- 6- Benmohamed, E., Ltifi, H., & Ayed, M. B. (2019, November). A Novel Bayesian Network Structure Learning Algorithm: Best Parents-Children. In 2019 IEEE 14th International Conference on Intelligent Systems and Knowledge Engineering (ISKE) (pp. 743-749). IEEE. <https://doi.org/10.1109/iske47853.2019.9170457>
- 7- Benmohamed, E., Ltifi, H., & Ayed, M. B. (2020). ITNO-K2PC: An improved K2 algorithm with information-theory-centered node ordering for structure learning. *Journal of King Saud University-Computer and Information Sciences*. <https://doi.org/10.1016/j.jksuci.2020.06.004>
- 8- Ltifi, H., Benmohamed, E., Kolski, C., & Ayed, M. B. (2020). Adapted Visual Analytics Process for Intelligent Decision-Making: Application in a Medical Context. *International Journal of Information Technology & Decision Making*

-
- (IJITDM), 19(01), 241-282.
<https://doi.org/10.1142/S0219622019500470>
- 9- Benmohamed, E., Ltifi, H., & Ayed, M. B. (2020). Hybrid Structure Learning Approach for Assessing the Phosphate Laundries Impact. *International Journal of Computer and Information Engineering*, 14(11), 430-436.
 - 10- Thaljaoui, A., Khediri, S. E., Benmohamed, E., Alabdulatif, A., & Alourani, A. (2022). Integrated Bayesian and association-rules methods for autonomously orienting COVID-19 patients. *Medical & Biological Engineering & Computing*, 60(12), 3475-3496.
 - 11- Benmohamed, E., Ltifi, H., & Ayed, M. B. (2022). Bayesian model construction based on data-experts oriented approaches for assessing the phosphate effluents effects. *Applied Intelligence*, 1-22.
 - 12- Soltani, R., Benmohamed, E., & Ltifi, H. (2022, October). Optimized Echo State Network based on PSO and Gradient Descent for Choatic Time Series Prediction. In *2022 IEEE 34th International Conference on Tools with Artificial Intelligence (ICTAI)* (pp. 747-754). IEEE.
 - 13- Bouazizi, S., Benmohamed, E., & Ltifi, H. (2022, December). SA-K2PC: optimizing K2PC with Simulated Annealing for Bayesian structure learning. In *Hybrid Intelligent Systems: Proceedings of the 22nd International Conference on Hybrid Intelligent Systems (HIS 2022)* online, 2022.
 - 14- Bouazizi, S., Benmohamed, E., & Ltifi, H. (2022, December). A Novel Approach of ESN Reservoir Structure Learning for Improved Predictive Performance, *28th IEEE Symposium on Computers and Communications (ISCC)*, 9 -12 July, 2023, Tunis Tunisia.
 - 15- Bouazizi, S., Benmohamed, E., & Ltifi, H. Decision-making based on an improved visual analytics approach for emotion prediction. *Intelligent Decision Technologies, Intelligent Decision Technologies (Preprint)*, 1-20. 2023.
 - 16- Bouazizi, S., Benmohamed, E., & Ltifi, H. Enhancing EEG-based emotion recognition using PSD-Grouped Deep Echo State Network. *Journal of Universal Computer Science*. 2023.
 - 17- Laifi, A., Benmohamed, E., & Ltifi, H. Xavier-PSO-ELM-based EEG Signal Classification Method for Predicting Epileptic Seizures, *MULTIMEDIA TOOLS AND APPLICATIONS journal*, 2023.
 - 18- Benmohamed, E., Thalaoui, A., Elkhedhiri, S., DDoS attacks detection with half Autoencoder-stacked deep neural networks, *International Journal of Cooperative Information Systems*. 2023.
-

-
- 19- Soltani, R., Benmohamed, E., Ltifi, H., Echo state network optimization: systematic litterature review, Neural Processing Letters, 2023.
 - 20- Ouni, C., Benmohamed, E., Ltifi, H., DI-ESN: Dual Input-Echo State Network for time series forecasting, 10th International Symposium on Networks, Computers and Communications (ISNCC'23).
 - 21- Soltani, R., Benmohamed, E., Ltifi, H.,Hybrid Quanvolutional Echo State Network for time series prediction, 16th International Conference on Agents and Artificial Intelligence ICAART, 24-26 February, 2024.
 - 22- Benmohamed, E., Thalaoui, A., Elkhedhiri, S., Intrusion detection system based on Autoencoder-stacked deep neural networks, Journal of Neural Computing and Applications (NCAA).
 - 23- Soltani, R., Benmohamed, E., Ltifi, H., Newman-Watts-Strogatz Topology in Deep Echo State Networks for Speech Emotion Recognition, Engineering Applications of Artificial Intelligence (EAAI).
 - 24- Ouni, C., Benmohamed, E., Ltifi, H., Deep learning-based Soft word embedding approach for sentiment analysis, 28th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, Seville, Spain, 11-13 September 2024.
 - 25- Soltani, R., Benmohamed, E., Ltifi, H., Topology-Adaptive Bayesian Optimization for Deep Ring Echo State Networks in Speech Emotion Recognition, Journal of Neural Computing and Applications (NCAA).
 - 26- Soltani, Rebh, Emna Benmohamed, and Hela Ltifi. "Quantum-enhanced cortical deep echo state network for fast and accurate speech emotion recognition." Quantum Machine Intelligence 7.2 (2025): 77.
 - 27- Albelaihi, R. , Benmohamed, E., iESN-SWT: improved Echo State Network with Small World Topology and Dimension Reduction for Time Series Classification, AICCSA 2025 (Accepted).
 - 28- Hamdani, H., Benmohamed, E. Ltifi, H. ,AFA-DPD: Adaptive Federated Approach using Data Poisoning Detection, AICCSA 2025 (Accepted).
-

TRAINING AND CERTIFICATIONS

- 1- Training for Oracle Certified Associate for the Java Platform (OCAJ) certification-2014
- 2- Training for Oracle Certified Programmer for Java (OCPJ) certification-2014
- 3- Training for Oracle Database SQL certification-2014
Training for Oracle Database Administration certification-2014
- 4- OCAJ Certification-2014
- 5- OCPJ certification-2014
- 6- Certificate of participation in Deep Learning Spring School: Theory, tools and applications-2018
- 7- Certificate of participation in Active pedagogy and experiential learning in higher education-2019.

REVIEWING ACTIVITIES

JOURNAL PAPER REVIEWING

IEEE Transactions on Systems, Man and Cybernetics: Systems **06-March-2017**

CONFERENCE PAPERS REVIEWING

International Conference: Sciences of Electronics, technologies of Information and Telecommunications: Indexed Conference IEEE 2022 SETIT **December-2021.**

Journal Paper Reviewing- 2023:

Journal:The Journal of Supercomputing

Paper: A Graph Attention Network-based Model for Anomaly Detection in Multivariate Time Series

Journal Paper Reviewing- 2023:

Journal:Knowledge-Based Systems

Paper: Parallel Structural Learning of Bayesian Networks: Iterative Divide and Conquer Algorithm based on Structural Fusion

ACADEMIC ACTIVITIES	Member of Academic Advising Committee Private Colleges of Onaizah- IT College-Cybersecurity department, 2023. Member of the Social Family Counseling Center Private Colleges of Onaizah- IT College-Cybersecurity department, 2023. Member of the exams control Committee Private Colleges of Onaizah-IT College-Cybersecurity department, 2023.
FINAL PROJECTS SUPERVISION	Supervision of more than 15 final projects done by the students in Faculty of Sciences of Gafsa (2008-2022). Supervision of 11 projects in cybersecurity department, Onaizah Colleges-College of IT (2023).
MASTERS SUPERVISION	Co-Supervisor of more than 5 masters (2019-2023)
SUPERVISION OF DOCTORAL THESES	Co-Supervisor of 3 PhD thesis (2020-2025)
INTERNATIONAL PROJECTS	Member of the organization committee of Quality Support Project in Faculty of Sciences of Gafsa, Computer Sciences department, 2014.
EVENTS ORGANIZATION	- Member of the organization committee of iDSS workshop of Research Groups on Machine Learning Laboratory (REGIM-Lab), Sfax, Tunisia, 2020. - Member of the organization committee of WIMTA workshop of Research Groups on Machine Learning Laboratory (REGIM-Lab), Sfax, Tunisia, 2021.
TEACHING ACTIVITIES	- Web dev: HTML, CSS, JavaScript, php - Oriented Object Programming: C++, C#, Java, Python - Programming: C, Matlab - Oriented Object application designing using UML. - Artificial Intelligence. - Preparation for Java Certification (OCAJ). - Database management (SQL, PLSQL) - Database security (Oracle 11g). - Information retrieval. - Digital Forensics investigation. - Wireless security
LANGUAGES	Arabic, French, English