



Dr. Ahlem WALHA

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● Summary

Experienced Assistant Professor of Computer Science with expertise in teaching, research, and academic program coordination. Serves as the Graduation Project Coordinator, guiding students to achieve excellence in their projects. Active member of the Quality Committee, contributing to program evaluation and quality assurance. Passionate about fostering innovation and maintaining high academic standards.

● Personal Information

Name: WALHA Ahlem

Date and Place of Birth: December 2, 1985, in Sfax (Tunisia)

Nationality: Tunisian

Marital Status: Married

Personal Address: Sfax, Tunisia ,

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Professional Status:

Assistant Professor at Sousse University, Tunisia

● Education

Ph.D. in Computer Systems Engineering

University of Sfax, Tunisia (April 2014)

Thesis: "Abnormal Behavior Detection in aerial video surveillance"

Master's Degree in Computer Science

University of Sfax, Tunisia - Juin 2011.

Thesis: "Development of a robust approach for detection events in video streams"

Bachelor's Degree in Computer Science

University of Sfax Juin 2008.

● Experience

Assistant Professor Higher Institute of Applied Sciences and Technology of Sousse, Tunisia (2025 – Now)

Assistant Professor Umm Al-Qura University, Saudi Arabia (2015 – 2025)

- Designed and taught undergraduate courses in Computer Science.
- **Graduation Project Coordinator:**
 - Guided students through the graduation project process, including proposal preparation, research, and implementation.
 - Coordinated with faculty members to evaluate and provide feedback on student projects.
 - Organized workshops and mentoring sessions to improve project quality and outcomes.
- Supervised undergraduate and graduate research projects.
- **Member, Quality Committee:**
 - Contributed to the evaluation and enhancement of academic programs.
 - Ensured compliance with institutional and accreditation standards.
 - Supported the development of quality assurance processes and frameworks.
- Published research papers in top-tier journals and conferences.
- Participated in departmental committees for curriculum development and student evaluation.

Assistant Professor Higher Institute of Applied Sciences and Technology of Sousse, Tunisia (2014 – 2015)

- Delivered lectures in Computer Science and oversaw practical lab sessions.

Lecturer National Engineering School of Sfax (ENIS), Tunisia (2012 – 2014)

- Conducted lectures and lab sessions for core courses in computer science department
- Assisted in student mentorship and evaluation.

Graduate Research Assistant National Engineering School of Sfax (ENIS), Tunisia (2009 – 2015)

- Conducted research in image and video processing .
- Published papers and presented findings at many conferences.

● Research Interests

- Artificial Intelligence and Machine Learning
- Data Mining and Big Data Analytics
- Cybersecurity and Network Systems
- Computer Vision and Image Processing

● Publications

Journal Articles

1. A. Ksibi, **A. Walha**, M. Ayadi, M. Zakariah, T. Alshalali, L. Jamel, “Enhancing Breast Cancer Detection Using Squeeze and Excitation Networks (SENet) with DenseNet Features Extraction”.*Traitement du Signal* volume 42 (6) **(Class Q3, Impact Factor 1)**, 2025
2. A. Ksibi, **A. Walha**, M. Zakariah, M. Ayadi, T. Alshalali, NA. Almujaally, “Multimodal Siamese networks for dementia detection from speech in women”, *Scientific Reports* volume 15 (1) **(Class Q1, Impact Factor 0.874)**, 2025
3. Y Didi, **A Walha**, A Wali, “Integrating environmental clustering to enhance Epidemic forecasting with machine learning models” *International Journal of Cognitive Computing in Engineering*, **(Class Q1, Impact Factor 1.566)**, 2025
4. **A Walha**, A Ksibi, M Zakariah, M Ayadi, T Alshalali, O Saidani, L Jamel, “Deep Learning and Machine Learning Architectures for Dementia Detection from Speech in Women”., *Computer Modeling in Engineering & Sciences (CMES)* 142 (3) **(Class Q2, Impact Factor 0.45)**, 2025
5. Y Didi, **A Walha**, A Wali, “COVID-19 tweets classification based on a hybrid word embedding method”, *Big Data and Cognitive Computing* 6 (2), 58 **(Class Q1, Impact Factor 0.922)**, 2022
6. Y Didi, **A Walha**, M Ben Halima, A Wali, “COVID-19 outbreak forecasting based on vaccine rates and tweets classification” , *Computational Intelligence and Neuroscience* (1), **(Class Q1, Impact Factor 1.56)**, 2022
7. **A. Walha**, A, Wali and A. M. Alimi, “Video stabilization with moving object detecting and tracking for aerial video surveillance”, *Multimedia Tools and Applications*, MTAP volume 74 pp 6745-6767, **(Class Q1, Impact Factor 0.77)** 2015

Conference Proceedings

1. Y Didi, **A Walha**, A Wali, “ Region-Focused CNN–ViT Hybrid for Medical Image Classification.” **Accepted in International Conference on Agents and Artificial Intelligence, ICAART , (Rank B) , Marbella, Spain 2026**
2. Y Didi, **A Walha**, A Wali, “ Data-driven Model for Influenza Prediction Incorporating Environmental Effects.” *International Conference on Internet of Things, Big Data and Security, IoTBDS*, pp15-24 , **(Rank C) , Prague, République tchèque 2020**

3. M Ahmadi, A Wali, **A Walha**, AM Alimi “A new motion estimation technique for video coding”, *15th International Conference on Intelligent Systems Design and Applications (ISDA)* pp 110-115, **(Rank C)** , Marrakech, Maroc, **2015**
4. **AHLEM WALHA**, ALI WALI, ADEL M. ALIMI: Moving Object Detection System in Aerial Video Surveillance. The 13th Advanced Concepts for Intelligent Vision Systems (ACIVS 2013), Poznan, Poland.
5. **AHLEM WALHA**, ALI WALI, ADEL M. ALIMI: A System of Abnormal Behaviour Detection in Aerial surveillance. The 9th Information Assurances and Security (IAS 2013), Sousse, Tunisia
6. **AHLEM WALHA**, ALI WALI, ADEL M. ALIMI: Video Stabilization for Aerial Video Surveillance. The 2013 AASRI Conference on Intelligent Systems and Control (ISC 2013), Vancouver, Canada.
7. **AHLEM WALHA**, ALI WALI, ADEL M. ALIMI: Support Vector Machine Approach for Detecting Events in Video Streams. The 1st International Conference on Advanced MACHine Learning Technologies and Applications (AMLT'2012), Cairo, Egypt.

● Teaching Experience

Courses Taught:

- Programming Languages: Python, Java...
- Tools and Platforms: MATLAB, TensorFlow...,
- Networking: CCNA Cybersecurity Operations expertise-

Developed course materials, assignments, and exams to align with program objectives.

Integrated innovative teaching methodologies.

● Certifications

Cisco Certified Academy Instructor for CCNA Cybersecurity Operations

● Technical Skills

- Programming: Python, Java, C++, etc.
- Tools and Technologies: MATLAB, TensorFlow, Git, etc.
- Networking: Expertise in CCNA, cybersecurity
- Other Skills: image and video processing

● Professional Memberships

- Since 2010: student Member "IEEE Signal Processing Society".
- Since 2010: student Member "IEEE Communications Society".
- Since 2010: student Member "IEEE Women in Engineering".

● Languages

- Arabic: Fluent
- French: Fluent
- English: Fluent