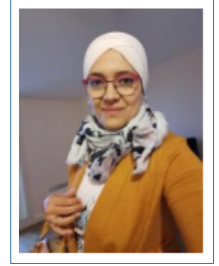


Imen JDEY

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Profile

Associate Professor of Computer Science with over 13 years of experience in higher education, research, and academic leadership. Specialized in Artificial Intelligence, Deep Learning, Image Analysis, and Decision Support Systems. Experienced in supervising doctoral and master's research, leading academic departments, and coordinating institutional career centers. Actively involved in international collaborations, curriculum development, and pedagogical innovation.

ORCID: <https://orcid.org/0000-0001-7937-941X>

ResearchGate: <https://www.researchgate.net/profile/Imen-Jdey>

Education

- 2018 **HDR in Computer Science**, *Université de Bretagne Occidentale (UBO)*, France.
Methodological contributions to the characterization of environments using fluorescence and radar imaging.
- 2014 **PhD in Computer Science**, *UBO, France & ENIS*, Tunisia.
Contribution of image fusion and classification techniques to the recognition of non-cooperative targets.
- 2011 **Research Master's Degree in Image and Computer Engineering**, *Université Paris-Dauphine*, France.
Development of a fluorescence microscopy image analysis tool for chromosome dynamics.
- 2010 **National Engineering Diploma in Software Engineering**, *INSAT, University of Carthage*, Tunisia.
Mention: Good
- 2004 **Scientific Baccalaureate (Mathematics)**, *Pilot High School of Gafsa*, Tunisia.
Mention: Good

Academic Appointments

- 2025–Present **Associate Professor**, *Faculty of Economic Sciences and Management of Sfax*, Tunisia.
Teaching load: 188h/year (AI Fundamentals, Machine Learning, Statistical Learning, Algorithms and Complexity).
- 2023–2025 **Assistant Professor**, *Higher Institute of Applied Sciences and Technology of Kairouan*, Tunisia.
Teaching load: 266h/year (Programming, Object-Oriented Programming, Artificial Intelligence, Decision Support Systems).
- 2012–2023 **Assistant Professor**, *Faculty of Science and Technology of Sidi Bouzid*, Tunisia.
Teaching load: 266h/year (Databases, Object-Oriented Programming, Machine Learning).
- 2019–2021 **Invited Research Assistant**, *ISAT, University of Burgundy*, France.
Artificial Vision and Introduction to Fuzzy Logic (180h/year).
- 2010–2012 **Contractual Assistant**, *Higher Institute of Applied Sciences and Technologies of Gafsa*, Tunisia.
Programming workshops, OOP, C++ (308h/year).

Academic Leadership and Administrative Roles

- 2023–2025 **Director**, *Career Center and Competence Certification (4C)*, ISAT Kairouan, Tunisia.
2019–2023 **Head of Department**, *Mathematics and Computer Science*, FST Sidi Bouzid, Tunisia.
2019–2023 **Director**, *Career Center and Competence Certification (4C)*, FST Sidi Bouzid, Tunisia.

Publications

Author of multiple peer-reviewed journal articles and international conference papers in artificial intelligence, image analysis, and decision support systems.

Journal Articles

- 2025 Hcini Ghazala and **Imen Jdey**. Privacy-aware malaria detection: U-net model with k-anonymity for confidential image analysis. *Jordanian Journal of Computers and Information Technology (JJCIT)*, volume 11, pages 85 – 99, 2025.
- 2024 Ghazala Hcini, **Jdey, Imen**, and Habib Dhahri. Investigating deep learning for early detection and decision-making in alzheimer's disease: A comprehensive review. *Neural Processing Letters*, volume 56, page 153. Springer, 2024.
- 2024 Walid Brahmi, **Imen Jdey**, and Fadoua Drira. Exploring the role of convolutional neural networks (cnn) in dental radiography segmentation: A comprehensive systematic literature review. *Engineering Applications of Artificial Intelligence*, volume 133, page 108510, 2024.
- 2024 Sonia Bouzidi, **Imen Jdey**, and Fadoua Drira. A vision transformer approach with l2 regularization for sustainable fashion classification. *Available at SSRN 4686032*, 2024.
- 2023 Brahmi Walid and **Imen Jdey**. Automatic tooth instance segmentation and identification from panoramic x-ray images using deep cnn. *Journal of Multimedia Tools and Applications*, 2023.
- 2023 **Imen Jdey**, Ghazala Hcini, and Hela Ltifi. Deep learning and machine learning for malaria detection: overview, challenges and future directions. *International Journal of Information Technology & Decision Making*. World Scientific, 2023.
- 2023 Wided Moulahi, **Imen Jdey**, Tarek Moulahi, Moatsum Alawida, and Abdulatif Alabdulatif. A blockchain-based federated learning mechanism for privacy preservation of healthcare iot data. *Computers in Biology and Medicine*, 2023.
- 2023 Ashraf Heni, **Imen Jdey**, and Hela Ltifi. Blood cells classification using deep learning with customized data augmentation and ek-means segmentation. *Journal of Theoretical and Applied Information Technology*, volume 101, 2023.
- 2022 Ghazala Hcini, **Imen Jdey**, and Hela Ltifi. Improving malaria detection using l1 regularization neural network. *JUCS: Journal of Universal Computer Science*, volume 285, 2022.
- 2022 Lamia Awassa, **Imen Jdey**, Habib Dhahri, Ghazala Hcini, Awais Mahmood, Esam Othman, and Muhammad Haneef. Study of different deep learning methods for coronavirus (covid-19) pandemic: Taxonomy, survey and insights. *Sensors*, volume 22, page 1890. MDPI, 2022.
- 2021 Ghazala Hcini, **Imen Jdey**, Ashraf Heni, and Hela Ltifi. Hyperparameter optimization in customized convolutional neural network for blood cells classification. *Journal of Theoretical and Applied Information Technology*, volume 99, pages 5425–5435, 2021.
- 2012 **Imen Jdey**, Abdelmalek Toumi, Mounir Dhibi, and Ali Khenchaf. The contribution of fusion techniques in the recognition systems of radar targets. *IET*, 2012.

Conference Proceedings

- 2026 Ghazala Hcini and **Jdey, Imen**. Boosting hyperspectral image classification with a 3d cnn and vision transformer hybrid architecture. In *2025 11th International Conference on Control, Decision and Information Technologies (CoDIT)*, volume 1, pages 2660–2665, 2026.

- 2025 Ghaith Sellami, Ghazala Hcini, **Jdey, Imen**, Fadoua Drira, and Berrin Yanikoglu. K-means clustered quantization for efficient cnn-based skin lesion classification. In *2025 IEEE 9th Forum on Research and Technologies for Society and Industry (RTSI)*, pages 302–307, 2025.
- 2025 Besma Rabhi, Habib Dhahri, **Jdey, Imen**, and Omar Alhajlah. Identification using mlp-mixer in agricultural environments. In *Intelligent Decision Technologies: Proceedings of the 16th KES-IDT 2024 Conference*, volume 411, page 425. Springer Nature, 2025.
- 2025 Ghazala Hcini and **Jdey, Imen**. Towards Privacy-Aware and Explainable Alzheimer’s Diagnosis Using Lime and Federated Learning. In *2025 IEEE 37th International Conference on Tools with Artificial Intelligence (ICTAI)*, pages 1504–1508, Los Alamitos, CA, USA, November 2025. IEEE Computer Society.
- 2025 Moez Hamdi, Sonia Bouzidi, **Jdey, Imen**, Fadoua Drira, and Berrin Yanikoglu. Auto-optimized parameter-efficient fine-tuning for skin lesion classification with vision transformers. In *2025 IEEE 9th Forum on Research and Technologies for Society and Industry (RTSI)*, pages 320–325, 2025.
- 2025 Sonia Bouzidi and Fadoua **Jdey, Imen** and Drira. Towards explainable skin cancer diagnosis: A vision transformer approach with grad-cam visualization. In *2025 International Joint Conference on Neural Networks (IJCNN)*, pages 1–8, 2025.
- 2024 Imen Jdey Nawel Slimani and Monji khirallah. Improvement of satellite image classification using attention-based vision transformer. In *international conference on Agents and Artificial Intelligence, ICAART, Rome, 2024*.
- 2023 Nawel Slimani, **Jdey, Imen**, and Monji Kherallah. Performance comparison of machine learning methods based on cnn for satellite imagery classification. In *2023 9th International Conference on Control, Decision and Information Technologies (CoDIT), Rome, Italy*, pages 185–189, 2023.
- 2023 Ghazala Hcini, **Imen, Jdey**, and Hela Ltifi. Hsv-net: A custom cnn for malaria detection with enhanced color representation. In *International Conference on Cyberworlds 2023, Sousse, Tunisia*. IEEE, 2023.
- 2022 **Imen, Jdey**. Trusted smart irrigation system based on fuzzy iot and blockchain. In *International Conference on Service-Oriented Computing*, pages 154–165. Springer, 2022.
- 2022 Ashraf Heni, **Imen, Jdey**, and Hela Ltifi. k-means and fuzzy c-means fusion for object clustering. In *2022 8th International Conference on Control, Decision and Information Technologies (CoDIT)*, volume 1, pages 177–182. IEEE, 2022.
- 2021 Sinda Jlassi, **Imen, Jdey**, and Hela Ltifi. Bayesian hyperparameter optimization of deep neural network algorithms based on ant colony optimization. In *Document Analysis and Recognition–ICDAR 2021: 16th International Conference, Lausanne, Switzerland, September 5–10, 2021, Proceedings, Part III 16*, pages 585–594. Springer, 2021.
- 2012 **Imen, Jdey**, Dhibi Mounir, and Bouhleb Med Salim. New method for analysis of fluorescent microscopy images dedicated to the description of the dynamics chromosome. In *Sciences of Electronics, Technologies of Information and Telecommunications (SETIT)*, 2012.
- 2012 **Imen, Jdey**, Mounir Dhibi, and Mohamed Salim Bouhleb. New method for analysis of fluorescent microscopy images dedicated to the description of the dynamics chromosome. In *2012 6th International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT)*, pages 932–938. IEEE, 2012.
- 2012 **Imen, Jdey**, Mounir Dhibi, Toumi AbdelMalek, Bouhleb Med Salim, and Khenchaf Ali. Isar image segmentation dedicated to target recognition. In *The 6th International Conference Sciences of Electronics, Technologies of Information and Telecommunications (SETIT’12), Sousse-Tunisia*, 2012.
- 2012 **Imen, Jdey**, Mounir Dhibi, Toumi AbdelMalek, and Khenchaf Ali. Comparaison des méthodes de fusion pour la reconnaissance de cibles à partir des images radar. In *12e Conférence Internationale Francophone sur l’Extraction et la Gestion des Connaissances (EGC), Bordeaux, France*, 2012.

- 2012 **Imen, Jdey**, Toumi AbdelMalek, Mounir Dhibi, Khenchaf Ali, and Bouhleb Med Salim. Reconnaissance de cibles radar par fusion de décisions. In *Conférence Francophone sur l'apprentissage automatique (CAP 2012)*, Nancy, France, 2012.
- 2012 **Imen, Jdey**, Toumi AbdelMalek, Mounir Dhibi, Khenchaf Ali, and Bouhleb Med Salim. New decisional fuzzy fusion for radar target identification. In *International Workshop Interaction Homme Machine (IHM 2012)*, Sousse-Tunisie, 2012.
- 2012 **Imen, Jdey**, Toumi AbdelMalek, Mounir Dhibi, Khenchaf Ali, and Bouhleb Med Salim. Fusion techniques contribution for radar target recognition. In *Journées Fouille et Visualisation de Données Massives Big Data Mining and visualization*, Tours-France, 2012.

Doctoral Thesis

Jdey Aloui, I. *Contribution of image fusion and classification techniques to assist the recognition of non-cooperative radar targets*. PhD Thesis, UBO, 2014.

Doctoral and Scientific Supervision

PhD Supervised: 3 PhD Co-supervised: 5 Defended: 2

Doctoral Theses

- On-board edge-optimized deep learning for real-time crop disease detection (A. Ben Ali).
- Deep learning-based tooth segmentation and treatment planning (W. Brahmi).
- Decision support using deep learning and image recognition (G. Hcini) – **Defended**.
- Emotion detection in uncertain images (A. Triki) – **Defended**.

Research Master's Theses

Supervision of more than 12 Master's theses in deep learning, medical imaging, blockchain, big data, and decision support systems (2020–2023), most awarded *With Distinction*.

Certifications

- Scrum Master Certification (2017)
- Deep Learning Certification – IVADO (IA-101)
- ICDL – International Computer Driving License
- Microsoft Certified Technology Specialist (MCTS)
- OCA UML Model Builder Certification

Pedagogical and Professional Training

- 2023 Educational Engineering Training, University of Kairouan
- 2021 Professional Career Development (PCD), Ministry of Higher Education & USAID
- 2019 PMP Project Management Training
- 2017–2019 IFeL–UVT Pedagogical Training (E-learning, Moodle, MOOC Design)
- 2013–2019 Multiple pedagogical workshops in France and Tunisia (Active learning, assessment, digital tools)

Scientific and Professional Service

- President and organizer of AI Hackathons and Python for AI training programs
- Member of program committees and reviewer for international conferences (CECNet, FSDM)
- Trainer for ICDL, Java, LaTeX, and academic writing workshops
- Member of numerous academic juries (Bachelor's, Master's, PhD)

— Languages

Arabic: Native

French: C1 – Professional Proficiency

English: C1 – Professional Proficiency

— Professional Memberships

Member of the Tunisian Association of Engineer Women (since 2023)

Member of the International Association of University Pedagogy (AIPU)

Member of the Tunisian Association of Education, Scientific Research and Development