

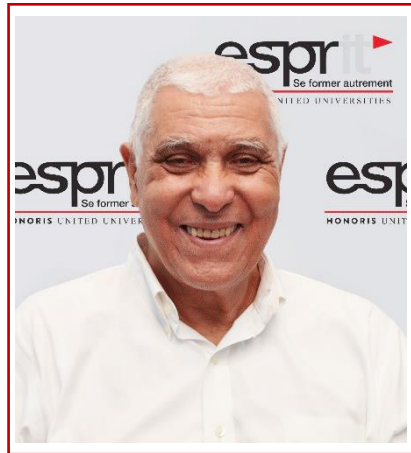


Research, Development & Innovation

Annual Report

2024-2025 Academic year





“At ESPRIT School of Business, we reaffirm our enduring commitment to impactful research that addresses pressing societal challenges and contributes meaningfully to the United Nations Sustainable Development Goals (SDGs). Beyond the pursuit of scientific excellence, our research agenda is intentionally oriented toward generating tangible value for society, industry, and policy.

In alignment with this vision, we were honored to have hosted and co-organized the 8th EAI International Conference on Emerging Technologies for Developing Countries (AfrikaTek 2025), held from June 11 to 13, 2025. Organized under the theme “*Emerging Technologies: Pathways to Resilience and Growth in Africa*,” this landmark edition convened leading researchers, innovators, and practitioners to explore how cutting-edge technologies can empower African societies, strengthen economic resilience, and foster sustainable growth.”

Professor Tahar Ben Lakhdar, CEO - ESPRIT School of Business

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ESPRIT-Tech

The Research, Development, and Innovation Office Welcome

“ At ESPRIT School of Business, we pursue a balanced RDI model that values applied research and innovation with tangible socio-economic impact, while firmly anchoring these efforts in strong fundamental research. Our research ecosystem actively engages faculty, students, industry, and public stakeholders, fostering interdisciplinary collaboration and knowledge transfer aligned with national priorities and the United Nations Sustainable Development Goals (SDGs).

The past year marked a major milestone in ESPRIT’s research journey. Our faculty produced a total of 36 peer-reviewed publications, including 22 addressing UN Sustainable Development Goals, 12 involving Artificial Intelligence concepts and applications, and 25 resulting from inter-institutional collaborations. Further, 3 publications focused on pedagogical innovation, reflecting our faculty’s commitment to redefining teaching, learning, and assessment while advancing academic excellence.

This catalog offers a snapshot of the diverse RDI activities, initiatives, and achievements that define ESB’s innovative spirit. It also reflects our forward-looking ambition to strengthen strategic partnerships with industry, public institutions, and international collaborators. Through these alliances, ESB aims to amplify research impact, contribute meaningfully to Tunisia’s socio-economic development, and position itself as a regional hub for research-driven innovation. Welcome to a catalog that celebrates research with purpose, innovation with impact, and collaboration as a cornerstone of progress.”

Prof. Faouzi Kamoun
Director ESPRIT-Tech
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Research Teams & Themes

#	Name	Domain	Coordinator	Contact Email address
1	MANOR	Management & Organizations (Management et Organisation)	Amina Amri	amina.amri@esprit.tn
2	ECOFIND	Economics, Accounting, Finance & Law (Economie, Comptabilité, FINance & Droit)	Wided Ben Moussa	wided.benmoussa@esprit.tn
4	MARK'In	Marketing	Ines Mestaoui	ines.mestaoui@esprit.tn
5	IND ²	Innovatio & Sustainable Development (Innovation et Développement Durable)	Azza Daboussi Torjeman	azza.daboussi@esprit.tn
6	AI4U	AI for You	Aymen Ben Brik	Aymen.benbrik@esprit.tn

#	Research Team	Research Themes
1	MANOR	⇒ Human Resource management ⇒ Entrepreneurship
2	ECOFIND	⇒ Economics ⇒ Finance and Sustainable Development ⇒ FinTech ⇒ Accounting and Innovation
4	MARK'In	⇒ Digital marketing ⇒ AI & Marketing ⇒ Consumers & Enterprise-related Sustainability
5	IND ²	⇒ Corporate Social Responsibility & Organizational Innovation ⇒ Social Responsibility of Higher Education Institutions ⇒ Pedagogical Innovation & CSR
6	AI4U	⇒ AI for personalized learning ⇒ Pedagogical innovation – GAI & Metaverse ⇒ ICT integration in Higher Education Institutions

Major organized RDI events 2024-2025



8th EAI International Conference, AfricaTek 2025



ESPRIT School of Business had the privilege of co-organizing and hosting the Eighth Edition of the European Alliance for Innovation (EAI) International Conference on Emerging Technologies for Developing Countries (AfricaTek 2025) during the period June 11-13, 2025.

Sponsored by Honoris United Universities and held under the overarching theme “*Emerging Technologies: Pathways to Resilience and Growth in Africa*,” this year’s edition highlighted how cutting-edge innovations can serve as powerful enablers of inclusive and sustainable transformation across the continent.

AfricaTek 2025 brought together a vibrant community of researchers and practitioners from Africa and beyond, offering a unique platform for critical dialogue on the role of emerging technologies in advancing Africa’s development priorities.

A total of 113 submissions were received, including full papers, short papers, and workshop proposals. Each submission was reviewed through a rigorous double-blind process with at least three independent reviews, generating a total of 490 review reports .

Following this process, 55 papers were accepted as full papers, 12 as short papers, and 2 as practical workshops. The accepted contributions span diverse domains, including healthcare and wellbeing, intelligent networking and cybersecurity, smart agriculture, smart cities, higher education, Industry 4.0, and sustainable development.

Artificial Intelligence emerged as a central theme, with nearly 70% of accepted papers addressing applications related to machine learning, large language models (LLMs), deep learning, computer vision, natural language processing, and data analytics. This strong representation underscores the pivotal role of AI as a catalyst for innovation, where it offers new opportunities to bridge development gaps, tackle complex challenges, and accelerate sustainable growth.

The program also featured two keynote addresses by Dr. Fawzi BenMessaoud (Indiana University, USA) and Dr. Adel Alimi (ENIS, Tunisia), as well as two practical workshops: AI-enhanced learning (by Wissal Neji and Naouel Boughattas) and GitHub-driven active learning pedagogy (by Badiia Bouhdid). The Best Paper Award was granted to a team from ESPRIT and Zayed University (UAE) for their research: F. Kamoun, F. Iqbal, H. Abidi, and A. Ben Brik, "Evaluation of Large Language Models in Simulating Real-World Engineering Scenarios and Decision Making: A Comparative Study of ChatGPT-4o, Gemini, and Perplexity."



WEITA 2025



During the period February 12-13, 2025, we had the privilege of organizing the second Edition of the Workshop on Emerging ICT Trends & Applications (WEITA), dedicated to the theme: ***“Explainable, Interpretable, and Trustworthy AI: Methods, Challenges, and Applications.”*** The event was organized in collaboration with EMSI (Morocco), IBM, NVIDIA, IEEE (Tunisia Section) and IEEE Esprit Student Branch. The event was held at ESPRIT and live steamed for remote participants.

This workshop on eXplainable AI (XAI) aimed to explore cutting-edge methods, tackle existing challenges and risks, and discuss practical applications of XAI to address the pressing need for transparency and trust in AI systems

By bringing together researchers and practitioners, this workshop provided an interdisciplinary forum for sharing recent research advancements in XAI approaches, best practices, design principles, open challenges, inherent risks, and practical applications. The program featured keynote presentations, open discussions, and practical, instructor-led hands-on training sessions on XAI.

The workshop was structured around four main themes:

- Technical aspects of XAI (methods, frameworks, and approaches).
- XAI use cases and application areas
- Ethical, security, and legal issues surrounding XAI.
- Hands-on practical training on XAI techniques (Day 2).



WEITA 2025 was organized in two days:

DAY 1- February 12th: Onsite event with hybrid online participation

- The first session (half day) drew attention to the state-of-the art in XAI concepts and approaches.
- The second session (half day) provided a deep understanding of the use cases and applications of XAI, while addressing the potential ethical, security, and legal concerns.

DAY 2- February 13th: Onsite Participation

- This full-day onsite event consisted of an instructor-led hands-on practical training in XAI that aimed to train participants on how to apply XAI techniques to understand Neural Network decisions, and boost transparency, fairness, accountability and trust in AI decision making.

The event attracted more than 200 participants on day 1 and more than 40 workshop participants on day 2.

KEYNOTE SPEAKERS

The image displays a collage of 10 keynote speaker cards for the Weita 2025 event. The cards are arranged in two rows of five. Each card features a speaker's photo, name, affiliation, and session details. The top row includes speakers like Prof. Dr. Wojciech Samek, Prof. Wassila Ouerdane, Dr. Celia Cintas, and Dr. Mourad Zeral. The bottom row includes Prof. Alberto Bacila, Prof. Giuseppe Primiero, Dr. Yazan Mualla, Dr. Farhad Iqbal, Dr. Amit Dhurandhar, and Michael Boone. Each card also displays logos for IEEE, ESCP, and Esprit Tech.

Speaker	Session Title	Day	Time
Prof. Dr. Wojciech Samek	Component-level Explanation and Validation of AI Models	DAY 1	9:15 – 9:55
Prof. Wassila Ouerdane	Interpretable Image Classification Through an Argumentative Dialog Between Encoders	DAY 1	9:55 – 10:35
Dr. Celia Cintas	A Tale of Adversarial Attacks & Out-of-distribution Detection Stories in the Activation Space	DAY 1	10:50 – 11:30
Dr. Mourad Zeral	Why Explainability Matters	DAY 1	11:30 – 12:15
Prof. Alberto Bacila	Reliable and Efficient Hardware for Trustworthy Deep Neural Networks	DAY 1	13:00 – 13:40
Prof. Giuseppe Primiero	BRIQ: A Bias and Risk Assessment Formal Methodology and Tool	DAY 1	13:40 – 14:20
Dr. Yazan Mualla	Human-Agent Explainability Architecture: Application of Remote Robots	DAY 1	14:20 – 15:00
Dr. Farhad Iqbal	The Impact of Explainable AI Models in Enhancing Interpretability and Transparency for Cybersecurity and Digital Forensics	DAY 1	15:15 – 15:55
Dr. Amit Dhurandhar	Explainable AI from Classification to Generation	DAY 1	15:55 – 16:35
Michael Boone	Trustworthy AI at NVIDIA	DAY 1	16:35 – 17:15

“Clean & Green 3” Event



The third edition of the Clean & Green event was held on April 26, 27, and 30, 2025.

It brought together around 100 participants from various Tunisian engineering and business schools and highlighted the impact of interdisciplinary and inter-school collaboration in addressing sustainable development challenges.

Objective

The main objective of Clean and Green was to raise awareness about environmental challenges and foster innovative, multidisciplinary solutions through teamwork, technical creativity, and strategic thinking. The event encouraged students to take an active role in designing sustainable solutions aligned with ecological, economic, and social considerations. Multidisciplinary student teams (engineering, IT, business) worked on real-life environmental challenges. The event consisted of two main stages:

Phase 1: Clean and Green hackathon

The goal of the hackathon was to encourage students to develop innovative solutions to address environmental pollution while applying the skills they have acquired throughout their academic studies.

Special training was offered during the hackathon on topics pertaining to Design Thinking, pitching, poster creation and video editing.

Phase 2: Clean and Green Poster Session

This poster session provided an opportunity for students to present their proposed solutions. It facilitated discussions among all participants, including businesses and associations, and provided students with the opportunity to explore startup ventures.



"DataForge: Generating Synthetic Data with AI" Workshop



Our AI Task Force organized two sessions of the workshop *"DataForge: Generating Synthetic Data with AI"*:

- Wednesday, 13/11/2024– for M2 students (BA, GAMMA, FIND)
- Wednesday, 19/02/2025 – for first-year BA students

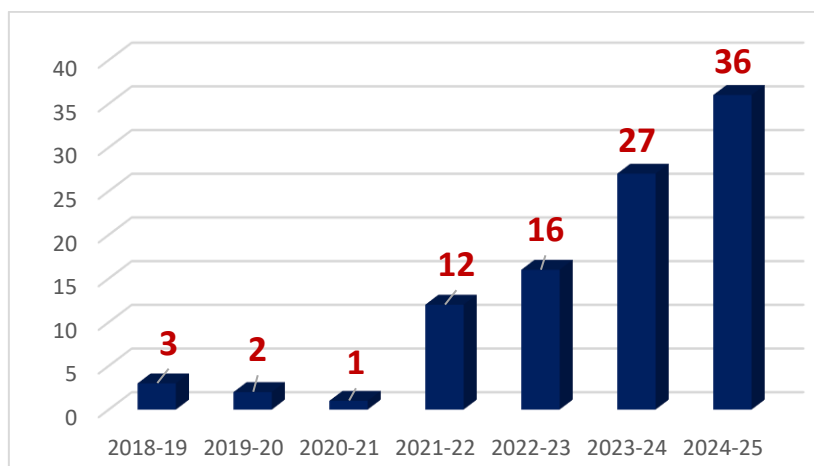
This workshop enabled students to:

- Discover AI tools (GANs, SDV, Mostly AI) for synthetic data generation,
- Carry out a machine learning projects without programming using a no-code platform.

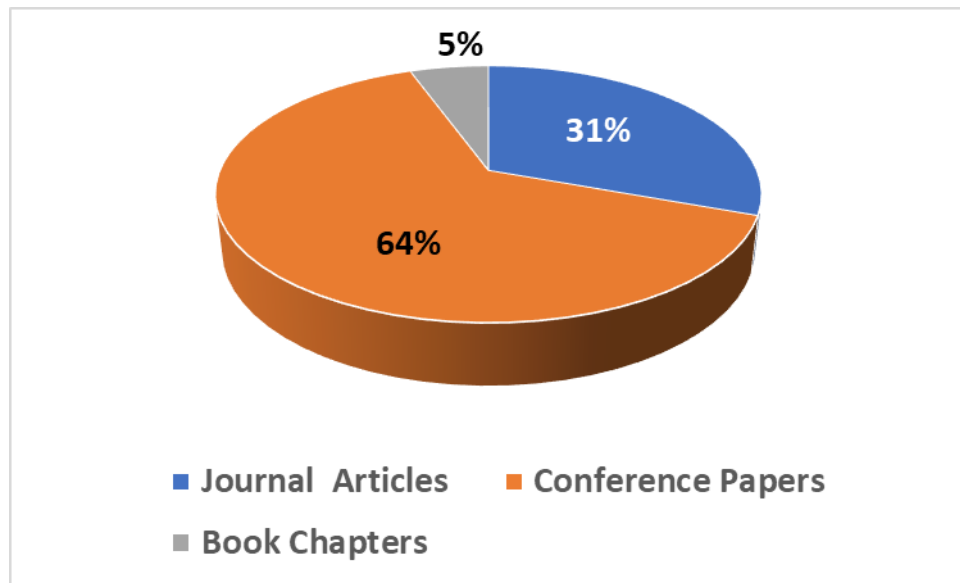
The emphasis was placed on data confidentiality, business use cases, and pedagogical innovation around AI.

RDI publications highlights

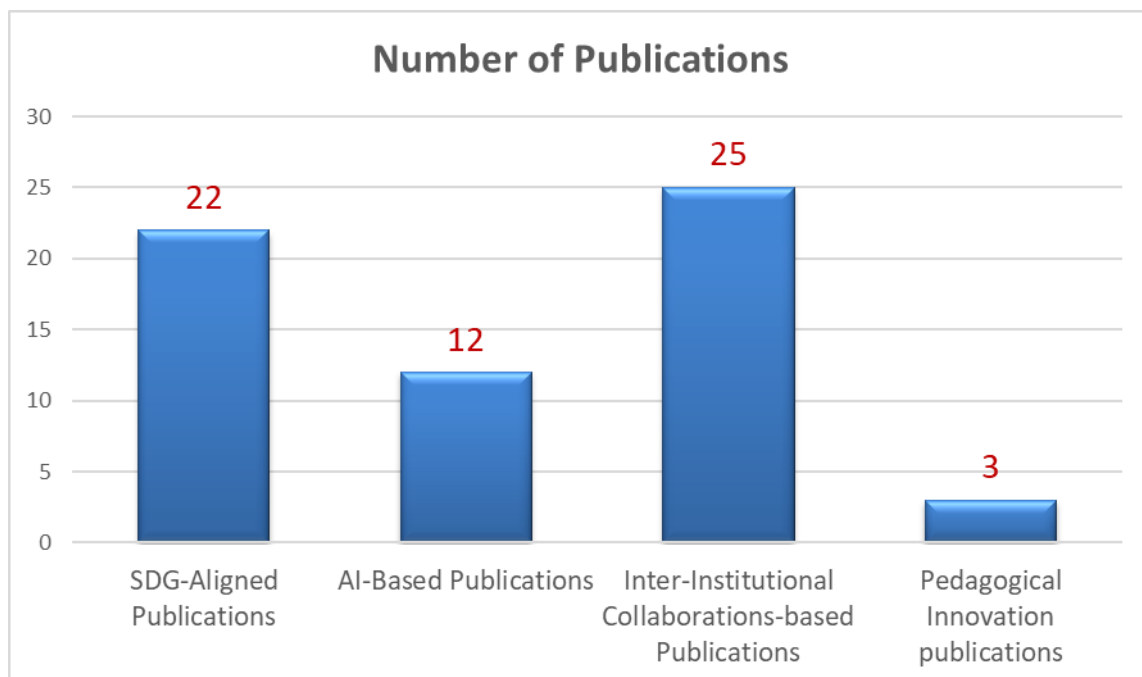
2024-2025 Academic Year (AY)



Evolution of the number of publications



Repartition of the research publications per type



Distribution of Research Publications Across Key Strategic Dimensions (N = 36)

Research Publications (2024-2025 AY)

#		Type ¹
1	Ammar, Rym , and Dhafer Saidane. "Potential of Islamic banking: focus on the Tunisian market." Journal of Islamic Marketing 16.4 (2025): 1003-1030. https://doi.org/10.1108/JIMA-01-2022-0035	JA
2	Sitnik, S.M., Jebabli , I. The Integral Transforms Composition Method for Generalized Index Shifted Transmutations". Lobachevskii J Math 45, 3401–3415 (2024). https://doi.org/10.1134/S1995080224603631	JA
3	Makni, R. , & Delhoumi, E. "Impact of financial inclusion on carbon emissions over time and income level – A study." Journal of Economic and Administrative Sciences. 2025. https://doi.org/10.1108/JEAS-01-2025-0013	JA
4	Haddar, Housseem, and Nouha Jenhani . "Analysis of the interior transmission problem in an unbounded locally perturbed periodic strip." Inverse Problems and Imaging (2025). In press, 20, pp.305-329. (10.3934/ipi.2025028). (hal-05108438) https://doi.org/10.3934/ipi.2025028	JA
5	Dimassi, I. , & Smaoui, F. "Marques de luxe et seconde main : Gestion des paradoxes pour une consommation plus responsable." Décision Marketing. No. 120. 2025. https://editions-ems.fr/boutique/decisions-marketing-n120/	JA
6	Ben Moussa, Wided and Troudi, Marwa . "ODA and Financial Inclusion: How is the Impact Transmitted in MENA Countries?" Review of Middle East Economics and Finance, vol. 21, no. 3, 2025, pp. 269-294. https://doi.org/10.1515/rmeef-2025-0004	JA
7	Rahali H , Nefzi A, Majd T, Mbadtchou A. "Passion entrepreneuriale et intention entrepreneuriale: une analyse par la théorie du comportement planifié." Revue internationale PME (In-press)	JA
8	Abidi, H. , Oualaid, A., Ouknine, Y., & Pettersson, R. "A mild approach to spatial discretization for backward stochastic differential equations in infinite dimensions." Stochastic Analysis and Applications, 42(1), 98–120. https://doi.org/10.1080/07362994.2023.2203733	JA
9	Abidi, Hani , Rim Amami, Roger Pettersson, and Chiraz Trabelsi. "L 2-convergence of Yosida approximation for semi-linear backward stochastic differential equation with jumps in infinite dimension." Arab Journal of Mathematical Sciences 31, no. 1 (2025): 82-95. https://doi.org/10.1108/AJMS-09-2023-0024	JA
10	Hani Abidi , Rim Amami, Walid Ben Aribi , Chiraz Trabelsi. "Constrained Optimal Control Problem Applied to Vaccination for COVID-19 Epidemic." Palestine Journal of Mathematics, In-Press.	JA
11	Baklouti, G., Ben Moussa, W. , Gafrej, O. "Investment Decisions Driven by Business Cycle Predictions Using Machine Learning Techniques: A Sectoral Analysis of the U.S. Economy." Journal of Business Cycle Research. 2025. (In press)	JA
12	Makni, Rania . "Energizing Governance During Energy Transition: The Potential Role of Blockchain Technology." In I. Baccouche & A. Khalil (Eds.), Corporate Governance, Digitalization, and Energy Transition (2025): 219-230. Taylor& Francis.	BC
13	Dimassi, I. , Smaoui, F. "The Hybrid Identity of Second-Hand Luxury: A Semiotic Approach." In: Thrassou, A., Vrontis, D., Efthymiou, L., Weber, Y., Riad Shams, S.M., Tsoukatos, E. (eds) The Evolution of Luxury Brands, Volume I. Palgrave Studies in Cross-disciplinary Business Research, In Association with EuroMed Academy of Business. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-96676-7_9	BC

1* JA: Journal Article – CP: Conference paper - BC : Book Chapter - RR: Research Report

#		Type ¹
14	Jamil Salhi. "Reconstruction of Small Boundary Perturbations of an Inclusion for a Magnetic Maxwell Interface Problem Based on Generalized Fourier Coefficients." 28 ^{ème} colloque de la SMT. CSMT 2025. April 24-27, 2025, Hammamet, Tunisia	CP
15	Dimassi, I., Mestaoui, I., Hassine, S. "Mirror, Mirror... Am I the Fairest of Them All? Smart Mirror Between Frustration and Pleasure." In: Jallouli, R., Bach Tobji, M.A., Omrani, N., Jenhani, I. (eds) Digital Economy. Emerging Technologies and Business Innovation. ICDEC 2025. Lecture Notes in Business Information Processing, vol 560. Springer, Cham. https://doi.org/10.1007/978-3-032-08603-7_20	CP
16	Amani D. "The Impact of Regulation on Fintech: An Illustrated Study." International Conference on Next-Generation Innovations and Sustainability 2025. Futurity Research Publishing. Futurity Proceedings. 2025 Apr 1;2. https://doi.org/10.5281/zenodo.15199786	CP
17	Hammami, Y., & Ben Hamadi, Z. "Perceptions étudiantes de l'intelligence artificielle générative dans l'enseignement de la comptabilité : une étude exploratoire en contexte tunisien." Communication présentée à la 14 ^e Conférence de l'African Accounting and Finance Association (AAFA), Kampala, Ouganda.	CP
18	Mohamed Ben Alaya, Walid Ben Aribi , Slimane Ben Miled. "Mathematical analysis of a delayed SEIRDS epidemics model: Deterministic and stochastic approach". International Conference on Mathematics and Applications ICoMA2025, 01 - 05 January 2025. https://doi.org/10.48550/arXiv.2208.07690	CP
19	Dimassi, I., Mejri Briki, O., et Fillali Ansari, S. N. "Congruence entre l'identité socialement responsable d'une marque et son image : Cas de Sélecta." Communication présentée au 22 ^e Colloque de l'Association Tunisienne de Marketing (ATM), 15-16 Avril, 2025. Sousse, Tunisie.	CP
20	Dimassi, I et Smaoui, F. "Luxe ou seconde main ? Comprendre l'ambivalence à l'égard du luxe de seconde main." Journées de Recherche Marketing sur les Pays d'Afrique (JRMPA), 28 novembre 2024, Lille, (France).	CP
21	Rahali H, Bouallègue S, Nefzi A, Ben Yedder M. "Les déterminants de l'intention entrepreneuriale sociale des étudiants : le rôle modérateur de la perception du support gouvernemental ." 26 ^{ème} Université de Printemps de l'Audit Social et Sociétal de l'Institut international de l'audit social et sociétal (IAS) .Paris, 22-23 mai 2025.	CP
22	Ben Moussa, W., El Ghourabi, M. "Cross-Sectoral Integration in the Sustainable Development Goals Costing: An Empirical Investigation in Egypt. "50th Eurasia Business and Economics Society Conference – Lisbon (Portugal), January.	CP
23	H.Jedidi, H.Ben-Romdhane, I.Nouaouri, S.Krichen. "A two-stage approach combining machine learning and optimization for the hospital patient bed assignment problem in emergencies". Procedia Computer Science (KES24), Volume 246, 2024, Pages 4316-4324, ISSN 1877-0509, https://doi.org/10.1016/j.procs.2024.09.281	CP
24	H. Jedidi, H. Ben-Romdhane, I. Nouaouri, and S. Krichen. "Bi-objective hospital bed assignment problem in emergencies." International Conference on Decision Aid and Artificial Intelligence (ICODAI'24). Atlantis Press, 2025. p. 136-146 https://doi.org/10.2991/978-94-6463-654-3_11	CP
25	H.Jedidi, H.Ben-Romdhane, I.Nouaouri, S.Krichen. "Clustering-Based Optimization for Emergency Patient Bed Assignment Problem." 2025 11th International Conference on Control, Decision and Information Technologies (CoDIT25), Split, Croatia, 2025.	CP
26	Meftahi, Belhassen. "Sustainable Development Index backward prediction using deep learning algorithms." 10th International Conference on Green Energy and Environmental Engineering "GEEE-2024" , Hammamet. https://cnpsi.com/PBS/Vol12/GEEE-12.pdf	CP
27	Mejri Briki, Olfa Mestaoui, Ines , Trimeche, Marouane. "From Likes to Buys: Reconceptualizing UTAUT2 for AI-driven Social Commerce adoption in Emerging Markets - A Conceptual Exploration from Tunisia". AfricaTek 2025: The 8th EAI International	CP

#		Type ¹
	Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer	
28	Souli, Sameh , Soltani, Amira , Amami, Rimah. "Deep Learning Based Methods for Breast Cancer Diagnosis." AfricaTek 2025: The 8th EAI International Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer.	CP
29	Meftahi, Belhassen. "Sustainable development backward prediction using a hybrid Deep learning Arima model with an auto-ARIMA selection criteria." AfricaTek 2025: The 8th EAI International Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer.	CP
30	Mbabu, Nicolas , Ammar, Rym , Othmani, Wadie. "From Pixels to Policy: A Tunisian Quality Index for Urban Sustainability". AfricaTek 2025: The 8th EAI International Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer.	CP
31	Benzarti, Sabine. "Generative AI for Intelligent Data Extraction: A Case Study in Automated Excel-to-SQL with Human Over-sight." AfricaTek 2025: The 8th EAI International Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer	CP
32	Kamoun, Faouzi, Iqbal, Farkhund, Abidi, Heni, Ben Brik, Aymen. "Evaluation of Large Language Models in Simulating Real-world Engineering Scenarios and Decision Making: A Comparative Study of ChatGPT-4o, Gemini, and Perplexity." AfricaTek 2025: The 8th EAI International Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer.	CP
33	Meriem Chichti, Faten Tebourbi, Chaima Ayari. "Artificial Intelligence in higher Education: A Framework for Enhancing Metacognition through Human-Machine Collaboration." (2025). AfricaTek 2025: The 8th EAI International Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer	CP
34	Thauraya Makni, Asma Baghdadi, Rania Chawali. "The Impact of an AI-Enhanced Training on Student Wellbeing and Quality Education: ResilienceBOT Case Study." AfricaTek 2025: The 8th EAI International Conference on Emerging Technologies for Developing Countries, Tunis, Tunisia. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST). Springer	CP
35	Soltani, A., Souli, S., Jabri, I., & Malek, I. "Enhancing Glaucoma Diagnosis: A Comparative Analysis of SVM and Logistic Regression for Clinical Decision Support." In IEEE 2025 International Conference on Control, Automation and Diagnosis (ICCAD) (pp. 1-5). 01-03 July 2025. DOI: 10.1109/ICCAD64771.2025.11099362	CP
36	Imen Mbarki and Ibrahim Fatnassi. "Dynamic causality between commodities and ESG in pre- and post-COVID19 periods." International Conference on Sustainability, Environment, and Social Transition in Economics and Finance (SESTEF 2024), December 11-13, 2024, Paris-France	CP



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