

# 12<sup>th</sup> INTERNATIONAL CONFERENCE ON NEW TECHNOLOGIES, ARTIFICIAL INTELLIGENCE AND SMART DATA

12<sup>th</sup> Edition  
**INTIS**  
2024



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30-31 May, 01 - June 2024, Tangier, Morocco



**Conference location : Hotel Salazur KENZI**

## Conference Program

### Thursday 30 MAY 2024

**08:30 – 10:00**

#### OPENING CEREMONY

08:30 – 09:00

Welcome & Registration

09:00 – 09:30

Welcome speech from the Conference Chairs

**09:30 – 10:30**



Chairman : **Ladjel BELLATRECHE**

Plenary 1 - Pr. Yannis MANOLOPOLOUS - Open University of Cyprus,  
*"Recommenders for Scientometric Objects?"*

**10:30 – 11:00**

#### COFFEE BREAK

**11:00 – 12:30**

#### Long Papers

##### SESSION 1: AI-Driven Applications

Chairmans : **M. TABAA / A. BOUZIRI**

##### SESSION 2: Data-Driven Applications

Chairmans : **S. MASSOU / R. MARGHOUBI**

**11:00 – 11:20**

**Intelligent Artificial intelligence Toward Streamlining Lean Manufacturing Approaches**  
Ikhlef Jebbor, Naima El-Hmous, Zoubida Benmamoun, Mourad Oubrich and Hanaa Hachmi.

**A capacity constrained ant colony optimization approach for Electric Vehicle Routing Problem with a partial charging strategy**  
Meryem Abid, Mohamed Tabaa and Hanaa Hachimi

**11:20 – 11:40**

**Road Roughness and ranking using Deep learning**  
Muhammed Saffarini, Amjad Rattrout, Yousef-Awwad Daraghmi and Muath Sabha

**Industrial Modbus-LoRa data logger for digital twin's applications**  
Adnane Bouchra, Abdelhafid Ait Elmahjoub and Abbas Dandache

**11:40 – 12:00**

**Adaptive Transfer Learning for Mineral Grade Prediction in Mining Industry 4.0**  
Ahmed Bendaouia, El Hassan Abdelwahed, Sara Qassimi, Abdelmalek Boussetta, Intissar Benzakour, Zaynab Naciri, Ilham Benmallouk and Oumkeltoum Amar

**A Comprehensive Study on Explainable Energy Consumption Patterns in Smart Buildings**  
Kaoutar El Azaar, Moncef Garouani, Asmae Chakir, Mohamed Hamlich and Franck Ravat

**12:00 – 12:20**

**Breast Cancer Detection Using Convolutional Neural Network**  
Yasmine Souba and Rachida Fissoune.

**Dynamic Model Integration in the Articulated Manipulator Trajectory Planning**  
Inas Saoud, Asaad Chahboun, Naoufal Raissouni, Hatim Idriss Jaafari, Nizar Ben Achhab and Soufiane Mezroui

**12:20 – 12:40**

**Unveiling the Future of Drug Discovery: Revolutionizing Log S Prediction with Deep Learning FNNs**  
Imane Aitouhanni and Amine Berqia

**Profitability Prediction of Stock exchange Symbols: An Integrated Data Mining Approach**  
Areen Naji, Amjad Rattrout and Rashid Jayousi

**12:40 – 13:00**

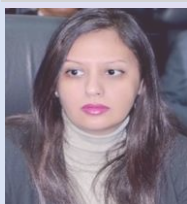
**Segment anything model for breast imaging segmentation: state-of-the-art.**  
Laila El Jiani, Ihsane Haloum Sanaa El Filali and El Habib Benlahmar

**BMA-Measure: A Novel Metric for Assessing the Quality of the Training Set**  
Mohamed Amine Boudia

**13:00 – 14:30**

#### LUNCH BREAK

14:30 –15:30



Chairmans : **A. RATTROUT** / **R. FISSOUNE**

Plenary 2 - Pr. Hanaa HACHIMI, Ibn Tofail University, Kenitra, Morocco

“Ne The Power of Data: How AI is Revolutionizing Operational Models“

15:30 –16:00

**COFFEE BREAK**

16:00 –18:00

**Long Papers**

**SESSION 3 :** *Natural Language*

*Processing & Forecasting Models*

Chairmans : **A. TALI** / **H. BELMOKADDEM**

**SESSION 4 :** *AI-Image processing & Anomaly*

*Detection*

Chairmans : **Y. LAAZIZ** / **A. MABROUK**

**16 :00 – 16 :20**

**Enhancing Arabic Handwritten Recognition System-Based Cnn-Bilstm Using Generative Adversarial Networks**

Rabi Mouhcine and Amrouche Mustapha

**Where We Are in Handling IoT and Robotics' Data for Agro-ecology Applications? An Architectural View**

Hassan Badir, Houssam Bazza, Fillipo Berto, Sandro Bimonte, Aldo Calcante, Paolo Ceravolo, Ali Hassan, Tahar Kechadi, Rim Moussa, Roberto Oberti, Sana Sellami and Nicolas Tricot

**16 :20 – 16 :40**

**Enhancing Arabic Language Understanding: AraBERT Models for Frozen Expression Identification**

Salma Tace, Youness Tace, Ayoub Esswidi, Soumaya Ounacer and Mohamed Azzouaz

**A concatenation Deep Learning Model for Photovoltaic inspection based on Aerial Infrared images**

Marwa Zerrouk, Imane Sebari and Zoubir Barraz

**16 :40 – 17 :00**

**Improving Machine Learning Accuracy in Detection SQL Injection Attack using NLP and Feature Engineering**

Amjad Rattrout, Majdi Jaradat and Rashid Jayousi

**Efficient face recognition model based ViT transformers architecture**

Latifa Er-Rajy, My Ahmed El Kiram, Oussama Lachihab and Mohamed El Ghazouani

**17 :00 – 17 :20**

**Cutaneous Leishmaniasis Future Forecasting Using Supervised Machine Learning Models**

Hasnaa Talimi, Imane El Idrissi Saik, Meryem Lemrani and Rachida Fissoune.

**Anomaly detection in cybersecurity events: a benchmark of statistical, machine learning and deep learning model**

Zineb Hidila and Mohamed Tabaa

**17 :20 – 17 :40**

**Deep learning time series forecasting using LST MODIS data: hyperparameter optimization**

Hafssa Naciri, Nizar Ben Achhab, Fatima Ezahrae Ezzaher, Naoufal Raissouni and Abdelilah Azyat

**Dynamic region proposal model for road anomalies detection and classification**

Rasha Saffarini, Faisal Khamayseh, Derar Elyan and Muath Sabha

**17 :40 – 18 :00**

**SentinelBERT: A Deep Learning Approach for Adverse Event Forecasting**

Amjad Rattrout, Rasha Assaf, Rashid Jayousi and Mohammed Khalilia

**Enhancing Outlier Detection: A Hybrid Architecture with Autoencoder Clustering and Isolation Forest**

Sanae Borrohou and Nadia Kabachi

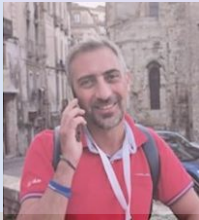
# Friday 31 MAY 2024

09:00 – 09:30

## WELCOME

09:00 – 09:30 Welcome & Registration

09:30 – 10:30



Chairmans: **A. LACHKAR** / **S. IBN EL AHRACH**

Plenary 3 - Pr. Marioa F. Pavone, University of Catania, Italy

*"Metaheuristics and Machine Learning: how one enhances the other"*

10:30 – 10:45

## COFFEE BREAK

10:45 – 12:30

## Short Papers

SESSION 1		SESSION 2	
Chairmans : <b>S. JAYOUSI</b> / <b>S. MEZROUI</b>		Chairmans : <b>M. SABHA</b> / <b>H. BENSAG</b>	
10:45 – 11:00	<b>Towards advanced modeling of road user behaviors for urban congestion management : a neural network-based framework</b> Mohamed Laamimach and Aziz Mabrouk.	<b>Protein-Protein Interaction Prediction using Graph Neural Networks</b> : Othmane Boumya, Hamza Hraiche and Kaouter Karboub.	
11:00 – 11:15	<b>Estimation of the Moroccan Yield Curve Parameters Using the NSS Method on Historical Data</b> Outmene Soussi Noufail, Hind Bourass and Ihtri Fettahi.	<b>Machine Learning with Causal Power: Unveiling the "Why" Behind the "What" using k-Nearest Neighbors</b> Hayat Ouadi, Ilhame el Farissi and Ilham Slimani.	
11:15 – 11:30	<b>Smart irrigation scheduling by using humidity and temperature data sensors</b> Zineb Laftouty, Khalid Bouraada, Mariam Essafi and Ahmed Bakrim.	<b>Machine Learning to identify the success patterns in Developing World Crowdfunding</b> Virgilijus Sakalauskas and Dalia Kriksciuniene	
11:30 – 11:45	<b>Exploration of Semantic Segmentation Algorithms through Deep Learning for Extracting Water Bodies from Wetland Areas</b> Mehdi Kechna, Yousra Achemlal, Kenza Ait El Kadi, Siham Fellahi, Marwa Zerouk and Hicham Hajji.	<b>Optimising Multi-Answer Queries Using Knowledge Graphs :</b> Wiem Baazouzi, Marouen Kachroudi and Sami Faiz.	
11:45 – 12:00	<b>A Comparative Study between solutions proposed to secure IoT: Networks</b> Mohamed Bachar, Azeddine Khiat and Ayoub Bahasse.	<b>RD-YOLOv8: Road Object Detection and Distance Estimation Model using a Monocular Camera :</b> Omar Bouazizi, Chaimae Azroumahli and Aimad El Mourabit.	
12:00 – 12:15	<b>Using Artificial Intelligence to Predict Machine Failures in the Manufacturing Industry</b> Mohamed Er-Ratby and Abdessamad Kobi.	<b>A Prediction Model Based On Recurrent Neural Network To Predict Freezing Of Gait Related To Parkinson's Disease</b> Yurub Awwad, Amjad Rattrout and Rashid Jayousi.	
12:15 – 12:30	<b>Human-Robot Collaboration in Remanufacturing: An Application for Computer Disassembly</b> Soufiane Ameur and Zineb Hidila.	<b>Development of a vulnerabilities online monitoring solution using machine learning</b> Douae Tizniti, Nadia Kabachi and Abdellatif Satir.	

13:00 – 14:30

## LUNCH BREAK

14:30 –16:30

## Long Papers

### SESSION 5: Recommendations Systems & Blockchain

Chairmans : **A. LYHYAOUI** / **C. AZROUMAH**

14 :30 - 14 :50

**Optimizing Urban Mobility through Vehicle-Infrastructure Interconnection: A Blockchain and AI Integrated Approach**  
Ikrame Ataltoul and Aziz Mabrouk

14 :50 - 15 :10

**Synergizing Blockchain and Cloud: Elevating Decentralization and Scalability in Blockchain-Cloud Deployment Modes**  
Youness Bentayeb and Hassan Badir

15 :10 - 15 :30

**Blockchain and Agile Methodology to Enhance Digital Transformation: The Case of SAFE Framework**  
Fatine Ziane, Aafaf Ouaddah, Younes Lagouaouta and Rabia Marghoubi:

15 :30 - 15 :50

**Balancing Convergence and Diversity in Educational Recommendations: A Novel Hybrid Multi-objective Optimization Method (NHOM)**  
Youssef Jdidou and Souhaib Aammou

15 :50 - 16 :10

**Improving Conversational Recommendation Via KGSF Based QA Reasoning**  
Wiem Baazouzi, Marouen Kachroudi and Sami Faiz

16 :10 - 16 :30

**Leader- Similarity for Community Detection in complex networks**  
Sara Ahajjam and Jamal Ghaffour

14:30 –16:00

## Short Paper

### SESSION 3: Short Paper III

Chairmans : **A. CHAHBOUN** / **A. AZYAT**

14 :30 - 14 :45

**Explainable AI for Energy prediction in Smart Building**  
Nisrine Bajja, Mohamed Hamlich and Franck Dufrenois.

14 :45 - 15 :00

**Weathering the Storm: Evaluating the Generalization of recent Object Detection Models for UAV Power Line Inspection of Insulators in Challenging Meteorological Conditions**  
Rita Aitelhaj, Badr-Eddine Benelmostafa and Hicham Medromi.

15 :00 - 15 :15

**Enhancing Academic Success Performance Early Prediction Using Machine Learning Algorithms**  
Abderrazek Hachani, Maha Mallek and Yosra Jmal.

15 :15 - 15 :30

**Automation Synergy: Intrusion Detection through Deep Learning via a DevOps Pipeline in a Cloud Environment**  
Oumaima Lifandali, Zouhair Chiba, Noredine Abghour, Khalid Moussaid and Mounia Miyara.

15 :30 - 15 :45

**Advancements in Arabic Handwritten Text Recognition: A Comprehensive Study of End-to-End Deep Learning Architecture with a Focus on Advanced Decoding Techniques**  
Imane Bounour, Alae Ammour, Ghizlane Khaissidi and Mostafa Mrabti.

15 :45 - 16 :00

**Empowering Earthquake Management Through Advanced Machine Learning in Social Media Analytics and Facebook Data For Good Utilization: A 2023 Case Study**  
Mohamed Mastir, Ali Dahbi and Khalil El-Hami

Chairman : **A. SBIHI**



16:00 –16:15

**BEST PAPER AWARD - AZEDINE BOULMAKOUL PRIZE -**

16:15 –17:00

**CERTIFICATE CEREMONY**



17:00 –17:30

**COFFEE BREAK**

20:30

**GALA DINNER**

Saturday 01 JUNE 2024

09:30 –12:00

SESSION INDUSTRIELLE

**SESSION Industrielle**  
**"IA & INDUSTRIE"**

12<sup>th</sup> Edition  
**INTIS**  
2 0 2 4

**Présidents**

- Said BENSBIH  
Eng, EMI / PHD ENSEM  
Expert
- Hassan BADIR  
Pr. à l'ENSA de Tanger  
et consultant digital

**Conférenciers**

- Mounire Trifess  
DG EDGE BUSINESS  
SCHOOL
- Mohamed Amine  
CHARAR, Eng., PHD,  
Expert en digital
- Hassan EL KHOLTI  
Directeur Transformation  
chez Dislog Group

**LE 01 JUIN 2024**  
**L'Intelligence Artificielle**  
**Au service des Entreprises:**  
**Opportunités et Enjeux**

Logos: EMSI, ECOLE MAROCAINE DES SCIENCES DE L'INGENIEUR, ENSA, DS RESEARCH TEAM, EMSI RECHERCHE INNOVATION

11:00 –11:15

COFFEE BREAK

12:00 – 12:30

CLOSING CEREMONY