

STSE2025 Conference Program Time Slots

Timing GMT+1	Friday, April 25, 2025		
08:30-09:30	Registration		
09:30-10:00	Opening Ceremony		
10:00-10:30	Coffee Break		
10:30-11:30	Keynote Speaker 1		
11:30-12:30	STSE-S1	STSE-S2	STSE-S3
14:15	LUNCH		
15:30-16:15	Keynote Speaker 2		
16:15-16:45	STSE2025-Poster Session		
16:45-17:00	Coffee Break		
17:00-18:30	STSE-S4	STSE-S5	STSE-S6

Timing GMT+1	Saturday, April 26, 2025			
09:30-10:30	Keynote Speaker 3			
10:30-11:30	STSE-S7	STSE-S8	STSE-S9	
11:30-12:00	Coffee Break			
12:00-13:00	STSE-S10	STSE-S11	STSE-S12	STSE-S13
13:00	LUNCH			
14:00	Excursion To Merzouga			



Detailed Program

Friday, April 25, 2025

Registration	08:30–09:30
Room: Registration Room	
Opening	09:30–10:00
Welcome of participants to the conference and Opening Ceremony	
▪ Dean of Faculty of Sciences and Techniques, Errachidia, Morocco ▪ Dean of Faculty Polydisciplinary, Errachidia, Morocco ▪ STSE2025 conference organizing committee	
Room: AMPHI	
Coffee Break	10:00–10:30
Room: Meeting Foyer	
Keynote Speaker 1	10:30–11:30
The Dilemmas of Green Artificial Intelligence	
Dr. Imad Zeroual, FST Errachidia, Morocco	
Session Chairs:	
Dr. A. Guezaz, EST Essaouira, Morocco	
Dr. Y. Farhaoui, FST Errachidia, Morocco	
Room: AMPHI	
Technical Sessions	11:30–12:30
STSE-S1: AI for Sustainable and Green Environment	
Session Chairs :	
Dr. S. Agoujl, ENCG Meknes, Morocco	
Dr. J. Mabrouki, FS Rabat, Morocco	
Room: AMPHI	



Contribution of precision farming technologies to environmental sustainability: literature review

H. Idier, M. Dehhaoui, N. Maatala and K. Ait El Kadi

Hybrid Deep Learning models with Bayesian Optimization for Leaf Disease Classification

N. Hajraoui, M. Azrour, Y. Farhaoui, and A. El Allaoui

Underwater Trash Detection with YOLO: Enhancing Environmental Monitoring in Aquatic Ecosystems

M. Benzyane, M. Khenchouch, M. Azrour, S. Agoujl, and Z.Kiliç

Parametric Sensitivity Analysis of Alkaline Electrolyzer for Green Hydrogen Production

B. Oussmou and S. Abderafi

Integrating ML and IoT for an Enhanced Assessment, Planning, and Management of New Towns and Smart Cities

M. Abdedaïme, E.K. Bilal, F.Z. Moussaid, A. Qafas, A.Guezzaz, and M. Azrour

STSE-S2: Data Analysis and Optimization Techniques

Session Chairs :

*Dr. A. Sultan, Prince Sattam Bin Abdulaziz University,
Saudi Arabia*

Dr. S. Benkirane, EST Essaouira, Morocco

Room: Online

Application of the Harmony Search Algorithm to Combinatorial Optimization Problems

F. Bouyaakoubi, M. Essaid Riff, M.C. Abounaima and M.D. El Ouadghiri

Optimization of Machine Tool Downtime Using Predictive Approaches Based on Minimalist Data

I. Sajib, O. Fanid, and A. Meddaoui

A Comparative Analysis of Dynamic and Static Malware Detection Tools

H. Ahmed, H. Ali, K. Batool, M. Islam, and A. Irshad

AI in UI/UX design: An Overview

Z. Babahaj, A. Elmounadi, A. Badaoui, and N. Berbiche



STSE-S3:Machine Learning for Data Analysis

Session Chairs :

Dr. M. Badiy, FST Errachidia, Morocco

Dr. A. Hessane, FS Meknes, Morocco

Room: Online

Improving Social Media Facial Emotion classification using transfer learning approach

N. Hicham and H. Nasser

Enhancing Arabic NER with Targeted Data Augmentation and a Specialized BERT Model

B. Ghazoui, I. El Bazi, B. Ait Benali, and H. Moussa

A New Era in Data Science: Innovations in Social Media Analytics

A. Essaidi, M. Bellafkih, and E.M. Kandoussi

A Machine Learning Framework for Early Intervention in E-Learning Environments

B. Jabir, R. Hamzaoui, E.A. Rahali, and N. Falih

A Robust Morphological Analysis System for the Moroccan Dialect: Design and Evaluation

K. Nadia, M. Azzedine, and N. Ouafae

The Evolution of Artificial Intelligence in photoplethysmography Monitoring: A Bibliometric Analysis

H. Loumissi, A. Barra, N. Messaoudi, O. Elbadlaoui,

B.Bensassi, and H. Medromi

Lunch

14:15

Keynote Speaker 2

15:30-16:15

Cybersecurity in the Age AI

Dr. Shehzad Ashraf Chaudhry, Abu Dhabi, United Arab Emirates

Session Chairs:

Dr. S. Agoujil, ENCG Meknes, Morocco

Dr. A. Derouichi, FST Marakech, Morocco

Room: AMPHI (online)

STSE2025-Poster Session

16:15-16:45

Room: Meeting Foyer



Coffee Break	16:45-17:00
Room: Meeting Foyer	
Technical Sessions	17:00-18:30
STSE-S4:IoT security Session Chairs : Dr. M. Eddabbah, EST Essaouira, Morocco Dr. E.M. EL Guarmah, ERA Marrakech, Morocco	
Room: EMPHI Graph Neural Network-Driven Financial Fraud Detection for Enhanced Transaction Security <i>C. Hamidi, M. Badiy, H. Aiouej, k. El Moustafid, H. Tribak, and S. Gaou</i> Exhaustive Literature Review on Methodologies for Human-Cyber-Physical Systems <i>M. Ouhdan, and A. AIT MADI</i> Analysis of deep learning-based intrusion detection systems in IoT environments <i>A. Blali, S. Dargaoui, M. Azrour, A. Guezzaz, F. Amounas and A. Alabdulatif</i> Scalable and Robust Multi-Factor Authentication Mechanism based on ECC for IoT Devices <i>A. Benqassmi, S. Bendaoud, F. Amounas, M. Azrour, and M. Badiy</i> PUF-based semi-centralized authentication scheme for Drone-to-Drone communication <i>S. Dargaoui, M. Azrour, A. El Allaoui, F. Amounas, A. Blali, A. Guezzaz, and A. Alabdulatif</i>	
STSE-S5: AI for Sustainable and Renewable Energy Session Chairs : Dr. A. Benami, FST Errachidia, Morocco Dr. A. Cherrafi, UCA Marrakech, Morocco	
Room: online Analysis and Prediction of Hydrogen Yield Using Artificial Neural Networks <i>N. Kouraa, S. Abderafi, and L. Abdelouahed</i>	



Enhancing Photovoltaic Power Prediction with Uncertainty Quantification Using Orthonormal Certificates

B. Saad, A. El Hannani , A. Aggal, and R. Errattahi

Comparing Modeling Strategies for Evaluating Feature Selection Techniques in Solar Radiation Forecasting

H. Hissou, S. Benkirane, A. Guezaz, M. Azrour, and A. Beni-Hssane

Renewable Horizons: Unveiling Morocco's Energy Transition Pathway through a Critical Literature Review

Zineb Idrissi and Mohamed Ouassaid

Renewable energy: a systematic review and sustainability issues

I. Idrissi Jouicha, A. Semmar, O. Jbaihi, H. Gziri, W. Dachry, and H. Medromi

STSE-S6: Innovative Solutions for a Smart Economy

Session Chairs :

Dr. M.K. Boutahire, ENIAD Berkane, Morocco

Dr. Z. Kiliç, Adiyaman University, Adiyaman, Türkiye

Room: online

A Hybrid Trust-Enhanced Multi-Criteria Recommender System for Dynamic Tourism Recommendations

M. Badouch

The Impact of IoT Technologies on Enterprise Logistics Optimization

S. Elbouamri and O. Lahcen

Deep Learning for Cryptocurrency Markets: Integrating Bidirectional LSTM and Graph Attention Networks to Predict Ethereum Prices

R. Bourday, A. Zaaouat, I. Aatouchi, and M. Ait Kerroum

Stock Price Prediction Using ARIMA, Machine Learning, and Deep Learning: Evidence from ATTIJARIWafa BANK

A. Zaaouat, R. Bourday, M. Ait Kerroum, and I. Attouchi

Smart maritime transportation: A Literature survey on AI models

H. El Mastik and F. El Khoukhi



Saturday, April 26, 2025

Keynote Speaker 3

09:30-10:30

Smart Governance for a Sustainable Future: Integrating IoT and Environmental Policy in Urban Systems

Dr. Imran Hossin, Varendra Universit, Bangladesh

Session Chairs:

Dr. Y. Farhaoui, FST Errachidia, Morocco

Dr. S. Guezzaz, EST Essaouira, Morocco

Room: AMPHI (online)

Technical Sessions

10:30-11:30

STSE-S7:imagry and AI in smart cities

Session Chairs :

Dr. Y. Qaraai, FST Errachidia, Morocco

Dr. A. El Allaoui, FST Errachidia, Morocco

Room: AMPHI

Interactive Image Segmentation using Dominant sets and Pairwise constraints

A. Mansouri and M. D. Aouragh

Enhancing Image Retrieval with Self-Supervised Transformers and Efficient Similarity Matching

S. Zitane, I. Zeroual, and S. Agoujl

Advancing Gait Recognition for Educational Applica-tions: Leveraging 2D Skeletal Data and Deep Learning on Raspberry Pi

Y. Amkrane, M. Badiy, F. Amounas, M. Azrour, and S. Bendaoud

Exploring Arabic Hate Speech Detection: Dialect Variations and Multimodal Approaches

M. Hassane, M. Azrour, A. Hessane and A. Guezzaz

An overview of Deep Learning-Based Anomaly Detection in Environmental Data

C. Zargane, A. Guezzaz, S. Benkirane, and M. Azrour

Integrating Multi-Data Sources and artificial intelligence for Early Detection of Epidemiological Problems: A One Health Perspective

S. Benzarbane, N. Hachoumi, M. Eddabbah, C.E Ait Zaoui, S. Boussaa, E.A.A. Rhassane, and A. Guezzaz



International Conference on Smart Technologies for Sustainable Environment
April 25-26, 2025 Errachidia, Morocco

STSE-S8: Smart Solutions for Precision Agriculture

Session Chairs :

Dr. A. Hessane, FS Meknes, Morocco

Dr. F. Amounas, FST Errachidia, Morocco

Room: Online

Sustainable IoT-Based System for Real-Time Environmental Control in Precision Agriculture

Mohamed Walid Hajoub, Hicham Touil, and Mohammed Achkari Begdouri

Optimizing Irrigation Scheduling Using Soil Moisture and Meteorological Data Fusion

Siham kharraz, Mohammed Nabil Kabbaj, and Mohammed Benbrahim

Towards a Holistic framework using Machine Learning

Approaches for Volume Estimation of Olive Trees

Ikram En-Najjari, Mehdi Najib, and Mohamed Bakhouya

Community Networked Microgrid for Resilient and Sustainable Energy Sharing in Smart Farming

A. Elamrani, A. Agachtoul, Y. Alidrissi, M. Najib, A. Rochd, K. Zineddine, D. Yousfi, and M. Bakhouya

Blockchain-powered IoT Platform for Decentralized Agricultural Water Management

A. Agachtoul, A. Elamrani, K. Karam, Y. Alidrissi, M. Najib, A. Rochd, and M. Bakhouya

STSE-S9: AI Innovations in Healthcare

Session Chairs :

Dr. A. El Kah, FP Errachidia, Morocco

Dr. I. Zeroual, FST Errachidia, Morocco

Room: Online

EEG Signal Analysis by combining ICA and PCA algorithms

L. Ziani, S. Ziani, and Y. Zorgani

Fuzzy Logic and Artificial Intelligence in Healthcare: A Comprehensive Survey

A. Benmoujane, A. Madani, and M. Kissi

Personal Health Knowledge Graphs: A Comprehensive Review of Applications and Future Directions

H. Elkoumikh, A. Madani, and M.D. El Ouadghiri

Digitizing health information systems: the case of



**appointment booking in the radiology department of the
Mohammed V military training hospital in Rabat**

L. Ouzren and I.E. Hamdaoui

**Using Blockchain technology to Secure Health Data in
Telehealth**

S. Sabrou, A. Guezzaz, S. Benkirane, and M. Azrour

Coffee Break

11:30-12:00

Room: Meeting Foyer

Technical Sessions

12:00-13:00

STSE-S10: AI Strategies for Strengthening Cybersecurity

Session Chairs :

Dr. A. Alabdulatif, Qassim University, Saudi Arabia

Dr. M. Mohy-eddine, ENSAM Casablanca, Morocco

Room: Online

**Addressing Modern Cybersecurity Challenges: A Hybrid Machine
Learning and Deep Learning Approach for Network Intrusion
Detection**

K. Bouzaachane, E.M. EL Guarmah, A.M. Alnajim, and S. Khan

**A Deep Q-Network-Based Detection for Mobile Edge Computing
Security**

H. Assmi, A. Guezzaz, S. Jabbour, S. Benkirane, and M. Azrour

**AI-Driven Security Automation in DevOps: Cybersecurity in
CI/CD Pipelines**

A. El Mazhari, A. Bahnasse, M. Mohy-eddine, and M. Zegrari

**Network Behavior-Driven Intrusion Detection: A Hybrid Deep
Learning and XGBoost Approach**

J. Mohammed, and F. Messaoudi

**Enhancing Cybersecurity in IoMT Environments: Machine
Learning-Powered Anomaly-Based Intrusion Detection Systems**

M. Yacoubi, O. Moussaoui, and C. Drocourt

From security equipment to managing vulnerabilities

Y. El Barhami, and H. Aroussi El Kharraz

Multi-Modal Fusion for Robust Face Liveness Detection:

Integrating Ensemble Learning and Contrastive Techniques

B. bah, H. Benbrahim, and A. Amine



International Conference on Smart Technologies for Sustainable Environment

April 25-26, 2025 Errachidia, Morocco

STSE-S11: Data Analysis and Optimization Techniques

Session Chairs :

Dr. A. El Mouatasim FP Ouarzazate, Morocco

Dr. A. Guezzaz, EST Essaouira, Morocco

Room: Online

Sustainable smart manufacturing theoretical background and conceptual framework

A. Dachry, N. Bensassi, N. Messaoudi, and W. Dachry

The Perturb & Observe Algorithm: An Adaptive Step Size and Dichotomy Approach to Improve MPPT Efficiency

O. Benmarrakchi, M. Kasri, Y. Lamriji, B. Cherkaoui, and A. Beni-Hssane

Automatic Loss Function Optimization for Image Segmentation Using Differential Evolution

F. El Abassi, A. Darouichi, and A. Ouaraab

Exploring LSTM-CAMF: A New Approach for Context-Aware Collaborative Filtering

K. Errakha, A. Samih, A. Marzouk, A. Krari, and S. Dfouf

Application of Machine Learning Models to Optimize the Quality of Produced Parts in the Automotive Industry

I. Moufid, L. Bousmaki, F. Briki, I. Lagrat, and O. Bouazaoui

An Iterative Greedy Algorithm involving a Q-Learning Mechanism for Solving the Permutation Flow Shop Scheduling Problem with Sequence-Dependent Setup Times

K. Mesmar, M. Lebbar, and K. Allali

STSE-S12: Innovative Approaches for Energy and Water Management

Session Chairs :

Dr. S. Ziani, UM5 Rabat, Morocco

Dr. Ilias Ouachtouk, ENSAM Casablanca, Morocco

Room: Online

Frequency and Phase Sequence Synchronization in Three-Phase Inverters: A Practical Approach for GridConnected PV Systems

A. Satif, M. Mekhfioui, and R. Elgouri

Errachidia's Arid Climate Under AI Lens 14-Year Trends and Insights

A. Kabori, A. Guezzaz, S. Benkirane, and M. Azrour



Water resources management: A systematic review of the Optimization models and approaches

H. Radia and E.K. Fatima

Trend in Desalination and Energy Efficiency

K. Tabsissi, N. Rabbah, A. Semmar, H. Medromi, and N.Machkour

Chicane Basins for Brine-Wastewater Recycling

A. El Allaoui, L. El Ansari, A. Semmar, W. Dachry, H. Gziri, and H. Medromi

Performance Evaluation of Hybrid Photovoltaic-Phase Change Materials Under Ouarzazate Weather Conditions

A. Fatima, G. Mohammed, B. Youssef, K. Abdelhadi, and S.Mustapha

STSE-S13: Advancing AI-Driven Technologies and IoT security

Session Chairs :

*Dr. V. Gugueoth, University of the Cumberlands,
Williamsburg, USA*

*Dr. Y. Wu, Northwestern Polytechnical University, Xi'an,
China*

Room: Online

Securing Internet of Things Devices with Federated Learning: A Privacy-Preserving Approach for Distributed Intrusion Detection

S. Al Amro

Bidirectional LSTM-Based Energy Consumption Forecasting: Advancing AI-Driven Cloud Integration for Cognitive City Energy Management

S. M. Shah, M. Selvamani, M. T. Ramakrishna CA, S. Bh. Khan, S. Basheer, W. Al Malwi, and T. Quasim

Detecting and Mitigating Distributed Denial of Service Attacks in Software-Defined Networking

A. M. Alnajim, F. M. Alotaibi, and S. Khan

An Intelligent and Latency Efficient Method for IoT-MEC Task Offloading

S. Ahmad

LUNCH

14:00

Closing the Event



International Conference on Smart Technologies for Sustainable Environment
April 25-26, 2025 Errachidia, Morocco