



COMPUTER INFORMATION TECHNOLOGIES IN INDUSTRY 4.0

November 04-06, 2026

Ternopil, Ukraine,

<https://citi.tntu.edu.ua/>

(CITI-2026)

The 4th International Conference

CONFERENCE PROGRAMME

Organizers, Partners and Sponsors



Ternopil Ivan Puluj

National Technical University

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I. Horbachevsky

Ternopil National Medical University



Military University of Technology
in Warsaw



Association of Science
and Education of Ukraine



Kharkiv National University
of Internal Affairs

04-06, November, 2026, Ternopil, UKRAINE, Warsaw, POLAND



**Co-funded by
the European Union**

University of Bielsko-Biala, Poland

**The conference workshops will be held in the Zoom environment
according to the schedule of participants' performances
shown below**

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Meeting ID: 373 432 5240

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Attention!

During the workshops, changes are possible in accordance with the situation in Ukraine. In particular, in the case of air alarms, there will be breaks and workshops continuation will be after the air alarms are over

CITI-2026 General Timetable
Workshop 1
Big Data Analytics / Digital Ecosystems

November 04		
	9:30-10:00	Registration of workshop participants
	10:00	Workshop opening
	10:00-10:10	Welcome speech of the workshop organizers and PC members
1	10:10-10:20	Monte Carlo Portfolio VaR with Gaussian and Student-t Copulas <i>Arsen Storozhynskiy, Yuliia Seti, Igor Boyko, Andriy Senyk</i>
2	10:20-10:30	Measuring Multilingual Fabrication in Vision-Language Reading of Food Package Labels <i>Rostyslav Zatserkovnyi, Roksoliana Zatserkovna, Volodymyr Havrylyshyn, Svitlana Vasiuta</i>
3	10:30-10:40	A Transport-Neutral Streaming Batch Architecture for Big-Data Simulation I/O in Scientific Modelling Software <i>Mykhaylo Petryk, Dmytro Mykhalyk, Mykola Zaiarnyi</i>
4	10:40-10:50	Intelligent System for Neural Turbo-Code Decoding Using Model-Driven Learning, SNR-Adaptive Scaling and Metaheuristic Optimization <i>Bohdan Bodnarenko, Yurii Ivanov, Maria Yukhymchuk, Viacheslav Kovtun, Vladyslav Lesko</i>
5	10:50-11:00	ATutor–JupyterHub Integration: A JWT-Based SSO Approach <i>Hryhorii Habrusiev, Vasyl Oleksiuk, Iryna Habrusieva</i>
6	11:00-11:10	Designing unified Terraform modules for Big Data infrastructure in hybrid clouds <i>Oleh Kyshkevych, Oleh Pastukh, Dmytro Uhryn</i>
7	11:10-11:20	Evaluating Ukrainian Grammatical Competence in Language Models: Probability Versus Prompting <i>Dmytro Babarytskyi, Oleksandr Babarytskyi, Vadym Savanevych</i>
8	11:20-11:30	An Offline Digital Twin and Constrained Reinforcement Learning Framework for Safe GSM Parameter Tuning <i>Dmytro Petrov, Volodymyr Shymanskyi</i>
9	11:30-11:40	Transformer-Based Classification of Short Ukrainian Search Queries: Comparative Evaluation and XAI Analysis <i>Dmytro Tymoshchuk, Taras Lechachenko, Rostyslav Koroliuk, Oleksandr Holotenko, Taras Kret</i>
10	11:40-11:50	Cost-Optimal Audit of Test Item Banks Against LLMs via Sequential Cascades <i>Borys Kuzikov, Andriy Chukhray, Oksana Shovkoplias</i>

11	11:50-12:00	Anchored Descriptor Fusion for Robust Face Retrieval in Vector Databases <i>Sergii Shkiria, Yurii Andrashko, Mariia Lomaha, Myroslava Herych, Andrii Biloshchytskyi</i>
	12:00-12:30	Coffee break
12	12:30-12:40	Method and Algorithm for Component-Based Multilevel Classification of Network Load <i>Mykola Khvostivskyi, Liliia Khvostivska, Iryna Dediv, Oleksandr Khvostivskyi, Vasyl Yatskiv</i>
13	12:40-12:50	Intelligent Information Technology for Decision Support in Player Selection Based on Hybrid Models <i>Alina Hnatchuk, Tetiana Hovorushchenko, Yaroslav Hnatchuk, Houda El Bouhissi</i>
14	12:50-13:00	Adaptive Reconfiguration of Context-Aware Data Processing Pipelines in AI-based Systems <i>Marian Pisotskyi, Alexey Botchkaryov, Valeriy Hlukhov</i>
15	13:00-13:10	Fuzzy-Gated Physics-Informed Neural Network for Artillery Systems Aiming Angles Prediction <i>Yurii Rubel, Yurii Hrytsiuk</i>
16	13:10-13:20	Infrastructure-Cost-Aware LLM-Agent Scaling of IoT Stream Processing on a Self-Managed Cloud <i>Andriy Lutskevych, Yurii Balandiuk, Andriy Palamar</i>
17	13:20-13:30	A weakly supervised neural risk layer for attacks missed by a signature IDS <i>Vitalii Horbatov, Anna Zhurba, Viktoriia Hnatushenko</i>
18	13:30-13:40	XGBoost streaming cross-subject EEG decoding efficiency comparison <i>Ivan Khamar, Igor Olenych, Halyna Klym</i>
19	13:40-13:50	Convergence Margin and Swarm Synthesis of Chase–Pyndiah Configurations for Turbo Product Codes <i>Yehor Zvuzdetskyi, Yurii Ivanov, Maria Yukhimchuk, Viacheslav Kovtun</i>
20	14:00-14:10	Yolo26 Neural Network Training for Early-Stage Detection of Sunflowers diseases <i>Maxim Ivanytskyi, Yevheniia Znakovska, Yuliya Averyanova, Olexandr Ochkala, Viacheslav Rudenko, Nadiia Sauliak</i>
21	14:10-14:20	Reference Sensitivity in Synthetic Data for Go Style Analysis <i>Andrii Holovko, Vladyslav Aliexsieiev</i>
22	14:20-14:30	Intelligent System for Segmentation, Recognition, and Spatial Localization of Raspberries for Mobile Robotic Platforms <i>Oleh Verbytskyi, Iaroslav Lytvynenko, Roman Zoloty, Oleksandr Povstianoi</i>

23	14:30-14:40	A Multi-Criteria Framework for Comparative Evaluation of Blockchain Consensus Algorithms <i>Olga Khrypko, Denis Lipatov, Volodymyr Kovtun, Sergii Khrypko, Andrii Bomba</i>
24	14:40-14:50	Uncertainty-Aware Digital Metrology Twin for Trustworthy IIoT Sensor Drift Decisions <i>Akmaljon Mamatov</i>
25	14:50-15:00	A Multi-Stage Hybrid CNN–Transformer Framework for Hierarchical Lung Disease Classification of Chest X-Ray Images <i>Jeba Shruthi S, V Anitha</i>
November 06		
	10:00-12:00	Time for unrepresented papers

Workshop 2

Complex Information Systems / IoT (IIoT)

November 05		
	9:30-10:00	Registration of workshop participants
	10:00-10:10	Workshop opening
1	10:10-10:20	Data-Driven Method for Sensor Fault Detection in Indoor Air Quality Monitoring Systems <i>Ivan Borodii, Halyna Osukhivska, Andrii Sverstiuk, Andrii Palamar, Illia Fedorovych</i>
2	10:20-10:30	Anomaly and Cyberattack Detection Methods in IoT Networks for Automation Systems <i>Serhii Kozak, Andrii Mykytyshyn, Andrii Stanko, Oleksandr Holotenko</i>
3	10:30-10:40	Drive-envelope screening and metamorphic testing of a rotary-vane engine digital twin <i>Zhengbing Hu, Yurii Ushenko, Dmytro Uhryn, Yurii Halin</i>
4	10:40-10:50	Prediction of the thermal conductivity of anisotropic 3D-printed polymer materials using machine learning algorithms <i>Danylo Stukhliak, Oleg Totosko, Petro Stukhliak, Roman Zoloty</i>
5	10:50-11:00	Neural Network Method for Vibration-Based Rotating Machinery Diagnosis under Unseen Operating Regimes <i>Olexander Mazurets, Olha Zalutska, Denys Makaryshkin, Anna Molchanova, Olena Sobko</i>
6	11:00-11:10	Terrain-Conditional Complementarity of Photometric Correction and Learned Invariance in UAV Localization <i>Volodymyr Vozniak, Oleksander Barmak</i>
7	11:10-11:20	Mutation Testing as Feedback for LLM-Based Unit Test Generation in Robotic Software <i>Andrii Kovtko, Volodymyr Savkiv, Halyna Kozbur, Ihor Kozbur</i>
8	11:20-11:30	Architectural Requirements for Designing Functional Stability Software Systems in PN-Semantics <i>Oleksii Bychkov, Maksym Spivak, Kateryna Merkulova, Yelyzaveta Zhabska</i>
9	11:30-11:40	Stabilized Inter-Frame Differencing with Adaptive Local Thresholding for UAV-to-UAV Detection: A Cramer-Rao Bound Analysis <i>Oleksii Bychkov, Kateryna Merkulova, Andrii Yaroshenko</i>
10	11:40-11:50	Intelligent Equipment Condition Forecasting Embedded in a Bakery Production Control Loop <i>Mariya Yukhymchuk, Viacheslav Kovtun, Ainur Ormanbekova,</i>

		<i>Pavlo Strembitskyi, Vladyslav Lesko</i>
11	11:50-12:00	Data-Calibrated Uncertainty-Aware Edge Battery Autonomy Estimation for Smart Apartment <i>Grigorii Shymchuk, Denys Kibitkin, Oleksii Duda</i>
	12:00-12:30	Coffee break
12	12:30-12:40	Machine Learning-Based Prediction of Main Motor Current in a Twin-Screw Extruder for Pellet Production <i>Oleksandr Smolii, Andrii Mykytyshyn, Rostyslav Koroliuk, Iryna Didych, Mykola Mytnyk</i>
13	12:40-12:50	Depth-aware detection of subsurface defects in 3D objects using INBEM and YOLOv12 <i>Roman Havdulskyi, Liubov Zhuravchak</i>
14	12:50-13:00	Overlap Bounds and Containment-Based Fusion for Tiled Inference in Distributed Object Recognition at the Edge <i>Bohdan Tsiunyk, Oleksandr Muliarevych</i>
15	13:00-13:10	An Interpretable Mathematical Model for Role-Based State Profiling and Anomaly Detection in IoT Networks <i>Mykola Stetsiuk, Yurii Klots, Nataliia Petliak, Dmytro Tymoshchuk, Oleksandr Skrypnychuk</i>
16	13:10-13:20	Reliability Assessment of Transformer-Based Anomaly Detection Software under Data Degradation <i>Denys Olianin, Halyna Tsupryk, Oleg Zastavnyy</i>
17	13:30-13:40	Evaluation methodology for adaptive neurostimulation controllers: comparative analysis of Deep Reinforcement Learning policies and non-adaptive baselines <i>Nataliya Boyko, Serhii Matsyshyn</i>
18	13:40-13:50	Architecture of a Unity-Based unmanned aerial vehicles simulation environment for intelligent agent training <i>Nataliya Boyko, Dmytro Maherovskyi</i>
19	13:50-14:00	Constructing GL-models for m-consecutive-k-out-of-n and m-consecutive-k,l-out-of-n systems <i>Ihor Yermolenko, Vitaliy Romankevich</i>
20	14:00-14:10	Ensemble and Adaptive Approaches to Detecting AI-Generated Text and Disinformation <i>Bohdan Khudoba, Iryna Dumyn</i>
21	14:10-14:20	Database Optimization Methods for Real-Time Internet of Things Systems <i>Leonid Romaniuk, Ihor Chykhira, Halyna Tulaidan</i>
22	14:20-14:30	A Method for Evaluating Edge-AI Control Using Cycle-Level Telemetry

		<i>Yevhen Darnapuk, Illia Huliae, Andrii Pavliuk, Yaroslav Krainyk</i>
23	14:30-14:40	Accelerated Analytic Gradient for Optical Coating Synthesis in a Verified Information System <i>Oleg Ryaboshchuk, Oleksandr Mitsa, Vasyl Petsko, Fedir Geche, Volodymyr Mitsa</i>
24	14:40-14:50	Spatial Array Phase – Based Minimum Variance Distortionless Response Beamformer <i>Trong The Quan, Ha Pham Van, Chau Nguyen Thi</i>
25	14:50-15:00	DriftBudget: Impact-Aware Prioritization of Semantic Drift Repair in Resource-Constrained Digital Twins <i>Mathimalar P, Keshika D, Abinaya C</i>
26	15:00-15:10	Predictive Maintenance for Industrial Machines Using AI <i>Krishna Kumar, P. Balamurugan</i>
November 06		
	10:00-12:00	Time for unrepresented papers

November 06		
	10:00-12:00	Time for unrepresented papers
	12:00-12:30	Conference summary. Discussion of the presented papers.

TIME FOR PRESENTATIONS:

- paper presentation at the regular session – 5 min.
- discussion, questions – 5 min.

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**Organized by:
Ternopil Ivan Puluj National Technical University,**

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**I. Horbachevsky Ternopil National Medical University
Military University of Technology in Warsaw**