

Khmelnyskyi National University

Program

of ExplAI-2025: Advanced AI in Explainability and Ethics for the Sustainable
Development Goals

ExplAI-2025

7 November 2025



Khmelnyskyi, Ukraine, 2025

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Time Difference

Relevant only for online participants.

The conference time corresponds with the EET (UTC+2) time zone, where the time in Ukraine is the reference point.

Country	Time zone	Time difference in hours in relation to Ukraine
Canada, ON	UTC-5	-7
UK	UTC+0	-2
Algeria	UTC+1	-1
Poland	UTC+1	-1
Serbia	UTC+1	-1
Slovakia	UTC+1	-1
Tunisia	UTC+1	-1
Czech Republic	UTC+1	-1
Poland	UTC+1	-1
Ukraine	UTC+2	0
Estonia	UTC+2	0
Kazakhstan	UTC+5	+3

General Information

- **Time Zone:** All times presented below are in Kyiv (EET, UTC+2).
- **Presentation Format:** Each presentation is allocated 15 minutes (10 minutes for the talk and 5 minutes for Q&A).
- **Meeting Details:** Zoom link
<https://us02web.zoom.us/j/7417780578?pwd=eOKaarBgeqoVtry5SYQhaDIG3BJ5Sb.1&omn=85468583134>
Meeting ID: 741 778 0578
Passcode: 2025
Moderator: Pavlo Radiuk

Workshop Schedule

09:00 AM – 09:15 AM | Welcome & Opening Remarks

09:15 AM – 10:15 AM | Session 1: Explainable AI

1. Explainable Artificial Intelligence Foundations for Web-Based Sea Ice Extent Forecasting System

Tetiana Hovorushchenko, Olga Pavlova, Vitalii Alekseiko, Oleg Voichur, Valeriia Shvaiko, Artem Boyarchuk

2. CNNs are Explainable Domain-Specific Visual Embedders

Zakhar Ostrovsky, Andrii Biloshchytskyi, Dmytro Uhryn

3. Neural Network Detection of Digital Fatigue and Burnout with Interpretable Thematic Segmentation

Olexander Mazurets, Roman Vit, Maryna Molchanova, Olena Sobko, Adam Wierzbicki, Dmytro Chumachenko

4. An Explainable Artificial Intelligence Approach for Detecting Network Attacks

Dmytro Tymoshchuk, Andriy Sverstiuk, Yurii Klots, Nataliia Petliak, Vira Titova

10:15 AM –10:30 AM | Coffee Break

10:30 AM – 11:15 AM | Session 2: AI Ethics and Governance

1. A method for synthesising system architecture for IT infrastructure resistant to social engineering attacks

Sergii Lysenko, Oleksandr Bokhonko, Tomas Sochor, Olha Atamaniuk, Nadiia Lysenko, Jiri Balej

2. Linear ensemble model with winner-takes-all aggregation strategy for improved small data classification

Ivan Izonin, Roman Tkachenko, Serhii Chesanov, Yaroslav Tolstyak, Myroslav Stupnytskyi

3. An Approach to Identifying Functional and Non-Functional Requirements in IT-Project Management using Deep Learning Models

Ruslan Bahrii, Tetiana Skrypnyk, Bohdan Romanov, Elena Zaitseva, Houda El Bouhissi, Volodymyr Lytvynenko

11:15 AM –11:30 AM | Coffee Break

11:30 AM –12:30 PM | Session 3: Sustainable Development Goals

1. AutoML PyCaret and SHAP Explainable AI for ECG Signal Classification Based on Amplitude Variability

Dmytro Tymoshchuk, Iryna Didych, Andriy Sverstiuk, Lyubomyr Mosiy, Yuri Palianytsia

2. Detection of intestinal thrombosis using a hybrid method based on genetic algorithm and grey wolf optimisation

Lyubomyr Chyrun, Dmytro Uhryn, Yuriy Ushenko, Oleksii Iliuk, Yuriy Masikevych

3. A Benchmark Methodology for Urban Traffic Pattern Clustering Using SUMO-Based Expert-Verified Ground Truth

Vitaliy Pavlyshyn, Eduard Manziuk, Adnène Arbi, Nebojsa Bacanin, Iurii Krak

4. Knowledge engineering information technology for cultural-educational scenarios based on RAG

Khrystyna Lipianina-Honcharenko, Nazar Melnyk, Myroslav Komar, Pavlo Bykovyy, Khrystyna Yurkiv

12:30 PM –12:45 PM | Coffee Break

12:45 PM –13:45 PM | Session 4: Trustworthy AI

1. Vision Transformers Transfer Learning for Smoking Detection in Public Spaces with Transparent AI Decisions

Olexander Mazurets, Maryna Molchanova, Olha Zalutska, Ihor Kok, Vitaly Levashenko, Abdel-Badeeh M. Salem

2. An Approach to Matching Satellite and UAV Images for Visual Place Recognition Using Color Normalization and YOLO

Volodymyr Vozniak, Yuriy Ushenko, Orken Mamyrbayev

3. Verifiable by Construction: Evidence-Anchored LLMs for Explainable Fake News Detection

Andrii Shupta, Pavlo Radiuk, Miroslav Kvassay, Piotr Gaj

3. Hierarchical neural network model for identifying similar objects in drone images

Dmytro Borovyk, Oleksander Barmak, Pawel Komada, Sergii Babichev

13:45 PM –14:00 PM | Coffee Break

14:00 PM – 14:30 PM | Awards & Closing Remarks