Programme of the 1st International Workshop on Advanced Applied Information Technologies (AdvAIT-2024)

Khmelnytskyi, Ukraine, December 5, 2024

Time regarding the Kyiv

Countries which represent authors	Time in countries regarding the time of Ukraine
Slovakia	- 1
United Kingdom	- 2
Poland	- 1
Czech Republic	- 1
Austria	- 1
Estonia	The same
Egypt	The same
Kazakhstan	+ 3

IMPORTANT!!! All Ukrainian participants of Workshop should be connected to all sessions from shelters in order to ensure uninterrupted work during air alarms! We will not stop the Workshop's sessions in case of an air alarm!

All workshop participants should have a backup connection option (charged mobile phone with a connected mobile internet) to ensure uninterrupted operation in case of emergencies – power outages, etc.

Timetable of the Workshop

Time (Kyiv)	December 5th 2024
9.30	**Welcome & Plenary Session**
9.45	Session Section
11.45	Coffee Break
12.00	Session Section
14.15	Coffee Break
14.30	Session Section
16.45	Coffee Break
17.00	**Awards & Close Ceremony**

Presentation timing:

Session presentations – 10 minutes + 5 minutes Q&A **(15 minutes for 1 speaker!)**.

Testing of Connection:

December 5th, 2024, 09.15-09.30 (9.15 AM – 09.30 AM), Kyiv time

Zoom links:

Welcome & Plenary Session	https://us02web.zoom.us/j/88235428743?pwd=KVLNJwq6WLfkFHEBpMzmyaeT2hEBAU.1 Meeting ID: 882 3542 8743 Password: 2024
Session Section	https://us02web.zoom.us/j/88235428743?pwd=KVLNJwq6WLfkFHEBpMzmyaeT2hEBAU.1 Meeting ID: 882 3542 8743 Password: 2024
Awards & Close Ceremony	https://us02web.zoom.us/j/88235428743?pwd=KVLNJwq6WLfkFHEBpMzmyaeT2hEBAU.1 Meeting ID: 882 3542 8743 Password: 2024

Plenary sessions	Invited presentations
Welcome & Plenary Session **December 5th 2024** **09.30-09.45** Moderators: Tetiana Hovorushchenko, Sergii Lysenko	**09.30-09.40** *Greetings from the AdvAIT Organizers:* **Tetiana Hovorushchenko**, Khmelnytskyi National University, Ukraine (General Chair of the Workshop) **Elena Zaitseva**, University of Zilina, Slovakia (General Chair of the Workshop) **Oleg Syniuk**, Vice-Rector of Khmelnytskyi National University, Ukraine **Sergii Lysenko**, Khmelnytskyi National University, Ukraine (International Program Committee Chair) **Vitaly Levashenko**, Zilina University, Slovakia (International Program Committee Chair) **Yelyzaveta Hnatchuk**, Khmelnytskyi National University, Ukraine (Organizing Committee Chair) **09.40-09.45** *Trends of the AdvAIT-2024* **Tetiana Hovorushchenko**, Khmelnytskyi National University, Ukraine
Awards and Close Ceremony **December 5th 2024** **17.00-17.15** Moderators: Tetiana Hovorushchenko, Sergii Lysenko	**17.00-17.15** *Awards and Close Ceremony*

Session Section	Presentations
Session Section **December 5th 2024** **09.45-11.45** Moderators: **Tetiana Hovorushchenko**, Olga Pavlova	Natalya Sokolova, Volodymyr Hnatushenko *Information Technologies in IT Education as a Factor of Digitalization of Ukrainian Society* Volodymyr Hnatushenko, Victor Shuleshko, Tetiana Bulana and Bohdan Molodets *Information System to Enhance Agricultural Production Efficiency Based on Sustainable Development Principles* Khrystyna Lipianina-Honcharenko, Mykola Telka and Nazar Melnyk *Comparison of ResNet, EfficientNet, and Xception Architectures for Deepfake Detection* Vyacheslav Repeta, Tetiana Kukura, Yurii Kukura, Ihor Myklushka, Bohdan Durniak *Assessment and Prognostic Models of the Efficiency of Anilox Rollers Cleaning Process* Bohdana Havrysh, Dmytro Palamarchuk, Oleksandr Tymchenko, Bohdan Kovalskyi and Orest Khamula *Efficiency of optimization algorithms in the problem of graphic objects placement* Tetiana Hovorushchenko, Vitalii Alekseiko and Vitaly Levashenko *Machine learning methods' comparison for land surface temperatures forecasting due to climate classification* Olga Pavlova, Eleonora Zabarna, Marharyta Pierkova, Andrii Kuzmin and Sava Kostiuk *Mathematical model for digital transformation of business processes in the coordinates of digital marketing* Mykola Fedoniuk, Olga Pavlova, Vitalina Fedoniuk, Dominika Riznyk and Ihor Konstankevych *GIS-based remote sensing identification method of thermal pollution in cities: case study of Lutsk, Ukraine and Lublin, Poland*
Session Section **December 5th 2024** **12.00-14.15** Moderators: **Olga Pavlova,** Tetiana Hovorushchenko	Olena Sobko, Olexander Mazurets, Maryna Molchanova, Iurii Krak and Olexander Barmak *Method for Analysis and Formation of Representative Text Datasets* Iryna Pikh, Vsevolod Senkivskyy, Alona Kudriashova, Lyubov Tupychak and Roman Andriiv *Formation of an indicator of the information message reliability level by fuzzy logic toolkit* Alona Kudriashova, Iryna Pikh, Vsevolod Senkivskyy, Irina Kalinina and Yurii Slipetskyi *Hierarchical modeling of factors influencing the quality of interactive editions design*

	Yurii-Antonii Zborivskyi, Alla Herts, Yelyzaveta Hnatchuk, Inna Martyniuk and Artem Boyarchuk *Decision Support System for Enforcement of Child Support Obligations* Volodymyr Tsikalo, Yelyzaveta Hnatchuk, Tetiana Hovorushchenko, Alla Herts and Elena Zaitseva *Information Technology for Verification of the Legality of the Mortgage Agreement for an Enterprise as a Single Property Complex* Serhii Svystun, Oleksandr Melnychenko, Pavlo Radiuk, Oleg Savenko and Andrii Lysyi *Distributed Intelligent System Architecture for UAV-Assisted Monitoring of Wind Energy Infrastructure* Oksana Desyatnyuk, Fedir Tkachyk, Svitlana Sachenko, Danylo Severynenko and Iryna Novosad *Dynamics of Tax Revenue Growth in Ensuring Regional Development Using Machine Learning* Grygorii Diachenko, Ivan Laktionov, Dmytro Moroz, Maryna Derzhevetska, Sergii Semenov *A Computerized Method for Predicting the Risk of Powdery Mildew in Wheat Based on Software Analysis of Soil and Climatic Monitoring Data* Anatoliy Sachenko, Victoria Vysotska, Serhii Vladov, Viktor Vasylenko and Maclej Dobrowolski *Hybrid method for restoring missing sensor data with adaptive control based on neuro-fuzzy networks*
Session Section **December 5th 2024** **14.30-16.45** Moderators: **Sergii Lysenko**, Andrii Nicheporuk	Nataliia Petliak, Yurii Klots, Vira Titova and Abdel-Badeeh M. Salem *Attack detection system based on network traffic analysis by means of fuzzy inference* Oleg Riznyk and Yurii Kynash *Information in Image Using Ideal Ring Bundles* Yuriy Stetsyuk, Mykola Stetsyuk, Kyrylo Voznyi, Vadym Paiuk, Miroslav Kvassay *A model of a centralized security system, as an information technology for the synthesis of an OS architecture protected against the leakage of confidential information* Oleksandr Kozelskiy, Antonina Kashtalian, Vasyl Stetsyuk, Dmytro Martiniuk, Anatoliy Sachenko *A model of an intelligent clustering system with an external module for the architecture of RTOS with intensive changes of states regarding their flexibility and balancing* Maksym Chaikovskyi, Inna Chaikovska, Tomas Sochor, Inna Martyniuk and Oleksii Lyhun *Modeling the detection process of polymorphic malware based on the Lotka-Volterra Model*

	Sergiy Gnatyuk, Viktoria Sydorenko, Artem Polozhentsev and Nazerke Baisholan *Experimental Study of the Method for Prioritizing IT Incidents at Critical Information Infrastructure Facilities of the State* Liubomyr Sikora, Nataliia Lysa, Olga Fedevych and Nazarii Khyliak *Cybersecurity of hierarchical structured systems in emergency response* Dmytro Denysiuk, Oleg Savenko, Sergii Lysenko, Bohdan Savenko and Andrii Nicheporuk *Detecting software implants using system decoys* Oleksandr Bokhonko, Sergii Lysenko and Piotr Gaj *Development of the social engineering attack models*