

University of Waterloo  
National Aerospace University “Kharkiv Aviation Institute”

Program of  
3<sup>rd</sup> International Workshop of IT-professionals on Artificial Intelligence  
**Profit AI 2023**  
(November, 20-22, 2023)



Waterloo, 2023

## **Program Committee**

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Yuriy Syerov – Lviv Polytechnic National University, Ukraine



## Section 1

November, 20<sup>th</sup>, 2023

Offline: University of Waterloo, HLTH TBJ-1061

Online: Zoom [link](#)

10:00 AM – 12:30 PM (GMT -5)

1. “An Intelligent Method of Prediction the Demand for Goods/Services in Crisis Conditions”, *Khrystyna Lipianina-Honcharenko, Yevgeniy Bodyanskiy, Anatoliy Sachenko, Ivan Kit, Taras Lendiuk, Grygoriy Sapozhnyk*
2. “Trash detection on the floor with IntelRealSense”, *Lesia Mochurad, Bohdan Herasym*
3. “The Higher Educational Information System: Management of the Timetable Scheduling”, *Liudmyla Koliechkina, Olena Dvirna, Yuri Ivanov, Kseniia Verhal*
4. “Cascade Model for Price and Time of Car Sales Prediction”, *Volodymyr Shymanskyi, Vasyl Liaskovets*
5. “Mathematical Modeling of the Braille Font Formation for the Information and Communication Environment Creation for Blind People”, *Volodymyr Mayik, Nataliia Lotoshynska, Lyudmyla Mayik, Kseniya Bazylyuk, Marian Khariv*
6. “Cluster Method Applying to Covid-19 Event Study for the Largest USA Banks”, *Andrii Kaminskyi, Maryna Nehrey*
7. “Competencies Model for the Socialization of Artificial Intelligence Systems”, *Sergey Bushuyev, Natalia Bushuyeva, Victoria Bushuieva, Denis Bushuiev, Andrii Ivko*
8. “YORES: An Ensemble YOLO and Resnet Network for Vehicle Detection and Classification”, *Akansha Singha, Krishna Kant Singh*
9. “Constraint Community Detection: modelling approaches with applications”, *Oksana Pichugina, Lyudmyla Kirichenko, Yurii Skob, Olha Matsiy*
10. “Deep Learning Models for Estimating Number of Lambda-Term Reduction Steps”, *Oleksandr Deineha, Volodymyr Donets, Grygoriy Zholtkevych*

## Section 2

November, 21<sup>st</sup>, 2023

Offline: University of Waterloo, HLTH TBJ-1061

Online: Zoom [link](#)

12:00 PM – 2:00 PM (GMT -5)

1. “Multi-Criteria Decision Discrete Model for Selecting Software Components in Component-Based Development”, *Liudmyla Koliechkina, Olena Dvirna, Serhii Khovben*
2. “Mathematical Modelling of Gas Admixtures Release, Dispersion and Explosion in Open Atmosphere”, *Yurii Skob, Sergiy Yakovlev, Oksana Pichugina, Mykola Kalinichenko, Kyryl Korobchynskyi*

3. “Development of a method for increasing the efficiency of identifying the state of a computer network by selecting the most informative features in the output data”, *Svitlana Gavrylenko, Vlad Zozulia*
4. “Using binominal theorem for expression tree comparing in Intelligent Tutoring Systems”, *Andrey Chukhray, David Dvinskykh, Vitaliy Narozhnyy, Iryna Trofymova and Tetiana Stoliarenko*
5. “Estimation of Ukrainian Refugees Impact on COVID-19 Dynamics in Czech Republic using Prophet Model”, *Dmytro Chumachenko, Vasyl Chomko, Ievgen Meniailov, Serhii Krivtsov, Halyna Padalko*
6. “Comparative analysis of the machine learning dimensionality reduction methods on the example of fetal health determination”, *Oleksii Khlystun, Kseniia Bazilevych*
7. “Mathematical Modeling of Rhesus Agglutinin Dynamics in the Human Population”, *Olena Kiseleva, Oleksandr Kuzenkov, Sergiy Yakovlev*

### Section 3

November, 22<sup>nd</sup>, 2023

Offline: University of Waterloo, HLTH TBJ-1061

Online: Zoom [link](#)

10:00 AM – 12:00 PM (GMT -5)

1. “Investigation of the impact of insulin resistance on the bone density of the upper wall of the maxillary sinus using uncertainty calculation”, *Alina Nechyporenko, Viktor Reshetnik, Marcus Frohme, Irina Muryzina, Irina Kachailo, Victoriia Alekseeva*
2. “Development of a syntax for representing regular constraints on the behavior of distributed systems with output”, *Pavlo Kovalev, Grigoriy Zholtkevych*
3. “Involvement of information technologies for the startup online course for learning the English language”, *Kyryl Korobchynskyi, Anastasiia Berestenko*
4. “Approaches to organization of change tables for real-time Business Intelligence”, *Anastasiia Morozova, Liliia Bielova, Ievgen Meniailov*
5. “Misinformation detection in political news using BERT model”, *Halyna Padalko, Vasyl Chomko, Dmytro Chumachenko*
6. “Classification of patients with suspected coronary artery disease based on locally weighted least squares method”, *Mykola Butkevych, Kseniia Bazilevych, Iryna Trofymova*
7. “Intelligent expert system for detection of healthcare-associated infections”, *Andrii Hrimov, Yurii Parfeniuk, Maryna Railian, Oleksandr Popov, Tetyana Chumachenko*
8. “Implementation of the uncertainty calculation for the detection of the negative effect of smoking on the bone density of the paranasal sinuses”, *Alina Nechyporenko, Viktor Reshetnik, Victoriia Alekseeva, Rosana Nazaryan, Anastasiia Devos, Vitality Gargin*