IVUS
International Conference on Information Technology

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In-person Session, May 12th

08:30 – 09.00	**Registration** Room 337, Studentų Str. 48a.
09:00 – 09:15	**Conference Opening** Prof. dr. Audrius Lopata, Kaunas University of Technology, Faculty of Informatics
9:15 – 10:30	SESSION 1 Chaired by Prof. dr. Audrius Lopata, Kaunas University of Technology Special Session on **Innovations in Information Technology** Room 337, Studentų Str. 48a. 1. **Mixed-Type Data Augmentations for Environmental Sound Classification** Tadas Turskis, Marius Teleiša, Rūta Buckiūnaitė and Dalia Čalnerytė 2. **Click Prediction Using Unsupervised Learning Methods** Vitalija Serapinaite, Ignas Suklinskas and Ingrida Lagzdinyte-Budnike 3. **Reinforcement Learning for Obstacle Avoidance Application in Unity ML-Agents** Reza Mahmoudi and Armantas Ostreika 4. **Fast Approximate Pathfinding Based on 2D Convolution** Marius Teleiša and Dalia Čalnerytė 5. **Recursive Weighted 2-Means Split Algorithm for Under-Segmentation Reduction** Kornelija Magylaitė, Lukas Arlauskas and Karolis Ryselis 6. **Influence of Aerial Image Resolution on Vehicle Detection Accuracy** Donata Gliaubičiūtė, Rokas Janavičius, Aušra Gadeikytė and Lukas Paulauskas 7. **Epidemiological modeling based on coronavirus data** Monika Szymura, Martyna Horst and Anna Altmann

Remote Session, May 12th

10.00 – 10.15	**Conference Opening** Assoc. prof. Daina Gudonienė, Kaunas University of Technology, Faculty of Informatics
10:15 – 12:00	Special Session on *Artificial Intelligence (Part 1)* Chaired by Assoc. prof. Daina Gudonienė, Kaunas University of Technology Remotely on Zoom 1. **Mapped Supervised Learning** Guillermo Hernández, Angélica González Arrieta, Pablo Chamoso and Juan Manuel Corchado 2. **Comparison of Neural Network Efficiency, Learning Process in Relation to Various Activation Functions** Paulina Hałatek and Paweł Noras 3. **Koopaml: Application for Receiving and Processing DICOM Images.** Rubén Fraile-Sanchón, Andrea Vázquez-Ingelmo, Alicia Gracía-Holgado and Francisco José García-Peñalvo 4. **Intelligent Medical Decision Making for Sepsis Detection Using Reinforcement Learning** Lakshita Singh, Lakshay Kamra, Muskan Aggarwal, Anjana Gupta and H.C. Taneja 5. **The Impact of the Weighting Techniques on Multimoora-Based Ranking on Patients Using Ambiguous Medical Data** Antoni Jaszcz 6. **Computer Vision-Based Multi-Class Classification of Garments Using a Three-Level Hierarchical Approach** Asta Kvedaraitė, Neda Buinevičiūtė and Agne Paulauskaitė-Tarasevičienė 7. **Showcasing Sentiment Classification and Word Prediction in the Quantum Natural Processing Area** David Peral García, Juan Cruz-Benito and Francisco José García Peñalvo
12:00 – 12:15	**Short break**
12:15 – 14:00	Special Sessions on *Artificial Intelligence (Part 2)* and *Cyber Security* Chaired by Assoc. prof. Daina Gudonienė, Kaunas University of Technology Remotely on Zoom 1. **Fine-Tuning Language Models for Emotion Recognition in Lithuanian Texts Using Neural Machine Translation of Training Datasets** Mindaugas Petkevičius and Daiva Vitkutė-Adžgauskienė 2. **Anomalous Water Use Detection Using Machine Learning** Lukas Kulikovas and Šarūnas Packevičius 3. **Digital Signature Design Using Verkle Tree**

	Maksim Iavich and Tamari Kuchukhidze
	4. **Utilizing the "MouseJack" Vulnerability in Physical Assessments** Maksim Iavich and Sergei Simonov
	5. **Enhancing Cyber Intelligence Capabilities through Process Automation: Advantages and Opportunities** Giorgi Iashvili and Maksim Iavich
	6. **High-Band Related Threats in 5G Network** Giorgi Akhalaia and Maksim Iavich
	7. **BERT-Based Models for Phishing Detection** Milita Songailaitė, Eglė Kankevičiūtė, Bohdan Zhyhun and Justina Mandravickaitė
14:00 – 14:30	**Lunch break**
14:30 – 15:45	Special Session on *Intelligent Systems and E-learning Solutions (Part 1)* Chaired by Prof. dr. Audrius Lopata, Kaunas University of Technology Remotely on Zoom 1. **An Exploratory Study of Techno-Pedagogical Skills and Happiness of Prospective Teachers in relation to Generative AI** Neha Jain and Neetu Singh 2. **Application of DFT Calculations in Designing Naphthalimide-π-Dimethylanilines** Dalius Gudeika 3. **Impact of Dark and Light Graphical User Interface Modes on System Usability: Preliminary Findings of an Experimental Study** Mindaugas Vinciūnas and Kęstutis Kapočius 4. **Streamlining Sub-aquatic ROV Fabrication through Mathematical Modeling, CAD and CFD Analysis for Enhanced Performance** Silvio Javier Lázaro Cárdenas, Jose Luis Ordoñez-Avila and Alicia Maria Reyes Duke 5. **Comparative Evaluation of Deep Learning Architectures for Environment and Obstacle Recognition in Robotic Lawn Care** Julius Šiaulys and Agnė Paulauskaitė-Tarasevičienė

15:45 – 16:00	**Short break**
16:00 – 17:00	Special Session on *Intelligent Systems and E-learning Solutions (Part 2)* Chaired by Prof. dr. Audrius Lopata, Kaunas University of Technology Remotely on Zoom 1. **A Framework for Microbusiness Density Forecasting** Eimantas Zaranka, Dmytro Klepachevskyi, Bohdan Krushelnytskyi and Tomas Krilavičius 2. **Unpacking the Evaluation Proceeding of Clinical Decision Support Systems: A Review of Methodological Approaches and Categories** Ali Azadi and Francisco José García-Peñalvo 3. **Quality Control Process of Cocoa Beans Through Computer Vision: Concept** Rodrigo Espinal, Jose Luis Ordoñez, Angie Carolina Santos Fernandez and Maria Elena Perdomo 4. **Moderating Effect of Parental and Teacher Variables on the Resilience-Academic Performance Relationship in Spanish Adolescents** Valentín Redondo Blasco and Fernando Martínez Abad