

CINTI 2024 Preliminary Program

November 19, Tuesday

Venue: **Bosch Budapest Innovation Campus**

(In order to enter Bosch building, you are kindly asked to register on this link: <https://forms.gle/cyQXTyYLAkawheyQ6> until November 15)

9:00 – 9:20 Opening Ceremony

9:20 – 10:00 Plenary Talk I

Session chair: Levente Kovács

József Kövecses: Digital Twins for Space Robotics Applications

10:00 – 10:20 Coffee break

10:20 – 11:00 Plenary Talk II

Session chair: Seyedali Mirjalili

Amirhossein Gandomi: AI-Driven Engineering: Redefining Possibilities and Problem-Solving

11:00 – 11:40 Plenary Talk III

Session chair: Péter Galambos

Seyedali Mirjalili: Towards Fully Automated Optimization with Agile Workflows and Large Language Models

11:40 – 12:45 Lunch

13:00 Bus transfer to Óbuda University

Venue: **Óbuda University**

14:20 -16:00 [Tu1] Session on Modeling uncertainty and Hybrid systems

Room F09

Session chair: Andrea De Gaetano

30	Marcello Pompa, Andrea De Gaetano, Alessandro Borri, Laura D'Orsi and Simona Panunzi	An Agent-Based Model of Avascular Tumor Growth
11	Tamás Jónás and Jenő Fáró	A Weighted Consensus Measure for Group Decision-making with Dichotomous Inputs
71	Stephen Kimathi and Bela Lantos	Robust adaptive formation control of fixed wing UAVs using disturbance estimators
75	József Dombi and Tamás Jónás	Lower and Upper Bounds on the Vagueness Values of Logical Operations in Pliant Systems
52	Hasina Attaullah, Sanaullah Sanaullah and Thorsten Jungeblut	FL-DL: Fuzzy Logic with Deep Learning, Hybrid Anomaly Detection and Activity Prediction in Smart Homes Data-Sets

16:00 – 16:20 Coffee break

16:20 – 18:00 [Tu2] Session on Neural networks and Fuzzy technology

Room F09

Session chair: Rita Fleiner

47	Marcell Németh, András Palásti and Gábor Szűcs	Advanced Time Series Embeddings Using Prior Knowledge of Change Point Information
9	Jamie Pinnington, Amina Souag and M A Hannan Bin Azhar	Machine learning in ASL fingerspelling recognition: A Literature Review
78	Patrik Dobrovodsky, Rita Fleiner and Eszter Kail	CNN in Malware Detection
66	Ahmet Mehmet Karadeniz, Áron Ballagi and László T. Kóczy	Exploring Fuzzy Signatures in Sensor Fusion: A Comparative Study with the Complementary Filter
8	Jean Rosemond Dora, Ladislav Hluchy and Jean Rosemond Dora	A Synopsis of Mitigation Techniques for Thick Client Application Vulnerabilities

17:30 MFT közgyűlés

Room F07

18:00 Welcome reception

Aula

November 20, Wednesday

9:00 – 10:20 [W1] Session on Informatics
Session chair: Adrienn Dineva

Room F09

3	Juraj Brodniansky and Ján Lang	Attention Management: Extending in progress
65	Ágnes Gerse, Adrienn Dineva and Rita Fleiner	Data Enrichment with Climate Reanalysis Data and Machine Learning for Analyzing Supply Adequacy in Renewable Power Systems
28	Szabolcs Hajdu, Gerlinda-Boglárka Kis, Albert Zsombor Fekete and Dénes Nimród Kutasi	Identifying and Implementing Common Tactics to Disrupt IoT Device Functionality Over TCP/IP Stacks
41	Mariusz Uchroński, Radosław Idzikowski, Michał Jaroszczuk and Piotr Nowak	Tabu search algorithm for cost optimization in multimodal transport

10:20 – 10:40 Coffee break

10:40 – 12:00 [W2] Session on Applications I
Session chair: Hannu Jaakkola

Room F09

46	Jaak Henno, Hannu Jaakkola and Jukka Mäkelä	Make IT sustainable again!
70	György Persa, Tamás Budai, Benedek Heilig, Dániel Mészáros, Gábor Peller, Sára Puspán, Norbert Rajos, Csaba Tóth and Péter Galambos	Immersive VR user interaction design in MaxWhere XR
80	Wojciech Bozejko, Dariusz Jagielski, Ryszard Klempous, Sergii Trotskyi, Mateusz Tykierko, Mariusz Uchroński and Mieczysław Wodecki	Hybrid quantum approximate algorithms for solving flow shop scheduling problem
14	Bence Kovács, László Sajó-Bohus and Bertalan Beszédes	Orthogonal Motion Control in Image Processing Application

12:00 – 13:00 Lunch

13:00 – 14:40 [W3] Session on Applications II

Room F09

Session chair: Andrea Tick

12	Jamie Pinnington, Amina Souag and M A Hannan Bin Azhar	Utilising Transformers for American Sign Language Fingerspelling Recognition
55	Mate Akos Tundik, Ferenc Kovacs and Mark Blasko	Building domain specific chatbot: a telco case study
5	Tsung-Nan Chou	A Prototype System Using Causal Inference and Machine Learning Models to Estimate ESG Ratings for SMEs
13	Yuqing Guan and Andrea Tick	Application and Evaluation of Layered Security Measures in Military Electronic Payment Systems
82	László Horváth	Scientific-Industrial Research Using Analytical- Behavioral Experimental Model

14:40 – 15:00 Coffee break

15:00 – 16:40 [W4] Session on Applications III

Room F09

Session chair: Andrea Pődör

18	Ryan Jones and M A Hannan Bin Azhar	'Parenting the Internet' App: a Web Guardian for Protecting Neurodiverse Users Online
25	Andrea Pődör, Ourania Kounadi, Mariana Vallejo Velázquez and Qilei Huang	Urban rehabilitation and the reflection of spatial reorganisation of crimes in citizens' crime perception
76	Samir Rasulov and Péter Pál Bakucz	Testing the Reliability of Traffic Node with Low Dimensional Attractor Analysis
49	Erarda Vuka and Yue Wu	What is stopping digital agricultural production technologies from farmers
79	Andrii Kushnarevych	Building Loyalty Programs with AI-Powered Online Tools

16:50 – 17:30 [W5] Session on **Genetic algorithms**
Session chair: Dániel András Drexler

Room F09

60	Martin Ferenc Dömény, Melánia Puskás, Levente Kovács and Dániel András Drexler	Genetic algorithm based chemotherapy optimization using basis functions
19	Niko Lukac, Domen Kavran, Monika Ferk Ovcjak and Marko Bizjak	Genetic algorithm for optimizing meteorological sensors placement using airborne LiDAR data

17:30 Banquet

Aula

November 21, Thursday

9:00 – 10:00 [Th1] **Special Session on PhD Student Workshop on Applied Informatics in Computational Intelligence**
Session organizer and chair: László Horváth

Room F09

32	Attila Érche gyi and Ervin Racz	Determination of HVAC system's optimal feedback location and controller setup with software model
53	Vivien Roxána Patakvölgyi, Levente Kovács and Dániel András Drexler	Synthetic data generation based on microscopic images of cancer cells
67	Lilla Kisbenedek, Melánia Puskás, Dániel András Drexler and Levente Kovács	Autoencoder-based architecture for parameter estimation of a tumor model
74	Lehel Dénes-Fazakas, Kata Sándor-Rokaly, Laszlo Szász, Henrik Csuzi, Levente Kovács, László Szilágyi and György Eigner	Exploring the Integration of Differential Equations in Neural Networks: Theoretical Foundations, Applications, and Future Directions

9:00 – 10:00 e-poster session

Session chairs: Tamás Nógrádi and Gábor Molnár

4	Raphaël Dion and Mazen Alamir	Operator Feedback-compatible Fault Detection Framework for Industrial Time-series Data Streams
17	Kristian Kykynezhdy, Tomas Adam and Frantisek Babic	Detection of Suspicious Activities on the Selected Blockchain Network
26	Anna Biceková, Natália Onufráková and František Babič	Application of Classification Models on Fraud Detection in Retail
48	Kenichi Tamura	Adaptive Virtual Life System Using Swarm Intelligence and 3D Rendering Techniques
58	Paulo Salgado, Teresa Perdicoullis, Paulo Lopes dos Santos and Paulo Afonso	Hierarchical Self-Organizing Map as nonlinear classifier
15	Murat Kozhanov, Amir Mosavi, Azamat Amirov, Dinara Kaibassova, Valeria Poser, Aliya Shakhatova, La Lira and Gyorgy Eigner	Syllabus Design and Planning with Artificial Intelligence and the Potential of Generative AI
16	Szilárd Berke	Indicators used to measure organisational excellence and their evaluation
73	Nikolett Huszak, Monika Garai-Fodor, Sugra Ingilab Humbatova and Nargiz Hajiyeva	Sustainability and awareness in education through the eyes of Generation Z

10:00 – 10:20 Coffee break

10:20 – 11:20 [Th2] Special Session on Digitalisation, Generation Research, Consumer Trends

Room F09

Session organizers and chairs: Mónika Garai-Fodor, Ágnes Csiszárík-Kocsir and János Varga

1	Christoph Gritsch, Michael Haschberger and Philipp Rosenberger	Catalog for IT project management auditing
37	Noémi Piricz and Vivien Leuba	AI adoption in Healthcare: Addressing Challenges and Change Management
38	Noémi Piricz	How business trust helps a small firm

11:20 – 12:30 Lunch and farewell

1st floor / bridge**Thank you for your contribution!**