

# INES 2026 Technical Program\*

The air-conditioning in the rooms does not suit everyone, so guests are advised to bring along a jacket.

Venue: **Aquaworld Resort Budapest** (address: Íves út 16, H-1044 Budapest, Hungary)



Dress code:  
business casual

## July 2 (Thursday)



**INES 2026**

IEEE 30<sup>th</sup> Jubilee International  
Conference on  
Intelligent Engineering Systems 2026

Budapest, Hungary

July 2-4, 2026

<b>8:30 – 14:40</b>	<b>Registration</b>		8 <sup>th</sup> Floor
<b>9:30 – 10:00</b>	<b>Opening Ceremony</b>		Room Nílus on 8 <sup>th</sup> Floor
<b>10:00 – 10:40</b>	<b>Plenary Session I</b> Session chair: Levente Kovács		Room Nílus on 8 <sup>th</sup> Floor
172	<b>Naoyuki Kubota</b>	Topological Intelligence for Robot Partners Based on Perceiving-acting Cycle	
10:40 – 11:10	Coffee break		
<b>11:10 – 11:50</b>	<b>Plenary Session II</b> Session chair: Péter Galambos		Room Nílus on 8 <sup>th</sup> Floor
171	<b>Yo-Ping Huang</b>	AI and LLM in Industry/Aquaculture Applications	

\* This preliminary program had been prepared on the basis of paper data in EasyChair. However, both final program and pendrive proceedings will be prepared according to the final papers submitted into IEEE PDF eXpress.

**11:50 – 12:30 Keynote Talk** Room Nílus on 8<sup>th</sup> Floor  
 Session chair: Levente Kovács

181	<b>Luiz M. Alves Dos Santos</b>	European Research Council – “Funding opportunities for creative minds from all over the world”
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12:30 – 14:00 Lunch Restaurant on ground floor

**14:00 – 14:40 Plenary Session III** Room Nílus on 8<sup>th</sup> Floor  
 Session chair: Péter Galambos

180	<b>Gernot Kronreif</b>	
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**14:40 – 15:20 Plenary Session IV** Room Nílus on 8<sup>th</sup> Floor  
 Session chair: Tamás Haidegger

182	<b>Oussama Khatib</b>	The Future of Human-Robot Collaboration
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15:20 – 15:40 Coffee break 1<sup>st</sup> Floor

**15:40 – 17:00 Registration** 1<sup>st</sup> Floor

**15:40 – 17:40 Parallel sessions**

**15:40 – 17:40 [T1a] Session on Artificial Intelligence in Engineering I** Room Ganges 3 on 1<sup>st</sup> Floor  
 Session chair: László Szilágyi

61	<b>Bianca-Ana Ebrasu</b> , Haleema Ushaq, Anvesh Jallapally and Nicolae Goga	Comparative Analysis of Optical and Hemodynamic fNIRS features for Machine Learning–Based Breast Cancer Detection
77	<b>Dongyang Song</b> , Lilei Ding, Yaqing Liu, Zhikun Liao, Zefeng Wang and Lin Wang	Enhanced Multi-Object Tracking for UAV Swarms Based on GMC Motion Compensation and UADA Association Enhancement
122	<b>Gábor Bálint</b> , Tamás Levendovics, Renáta Levendovics and Tamás Haidegger	Comparison of Temporal Neural Architectures for Frame-Wise Surgical Gesture Segmentation on the JIGSAWS Dataset

124	<b>Ján Magyar</b> , Maroš Hliboký, Slavomír Hodor, Martina Szabóová and Marek Bundzel	Reinforcement Learning–Based Adaptive Hand Rehabilitation: A Proof-of-Concept Study
20	<b>Patrik Péter Süli</b> , György Eigner and Zsombor Zrubka	Emergent Health Preferences in Large Language Models: A Time-Trade-Off Analysis Using EQ-5D-3L
169	<b>Attila Biró</b> , Gyopár Kolumbán and László Barna Iantovics	Risk-Calibrated Polypharmacy Graph Learning for Uncertainty-Aware Drug Combination Optimization

**15:40 – 17:40 [T1b] Session on Intelligent Transport Systems**

Room Ganges 4 on 1<sup>st</sup> Floor

Session chair: Snježana Babić

84	<b>Xufeng Liu</b> , Yuanhan Wang, Dongyang Song, Jie Yuan, Zhikun Liao and Lin Wang	An Improved SINS/GNSS Coarse Alignment Method for Autonomous Vehicle based on SVD
112	<b>Andrea Galadíková</b> and Peter Jankovič	Data-Driven Modeling of Passenger Decision-Making in Public Transport
86	<b>Yuanhan Wang</b> , Zhonghong Liang, Pengcheng Mu, Jie Yuan, Zhikun Liao and Lin Wang	Clustering Analysis-Based Online Abnormal Performance Monitoring Method for On-board Dual Single-axis RINSs
51	<b>Taihao Li</b> , Frederik Jorswieck and Xiaobo Liu-Henke	Time-Window Conflict Analysis for V2X-Assisted Overtaking Decision-Making
160	<b>Roland Csongvai</b> and Péter Pál Bakucz	Runtime Conflicts Between Functional Safety, SOTIF, and Cybersecurity Standards for Automated Driving Systems: An Interaction Surface Analysis
88	<b>Ming Tian</b> , Zhiyi Xiang and Jian Zhou	2D-LDV Aided Adaptive Unscented Quaternion Estimation for High-Precision SINS In-Motion Alignment

**15:40 – 18:00 [T1c] Special Session on Digitalisation, Generation Research, Consumer Trends**

Room Ganges 5 on 1<sup>st</sup> Floor

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

59	István Gál and <b>Andrea Tick</b>	Assessing Supply Chain Exposure in the Automotive Industry: Composite Indices and Cluster Analysis of Central European Suppliers
119	<b>Enikő Boros</b> and Deodáth Zuh	Objective Solutions for Shaping Subjective Perception: Contemporary Concrete Types and Their Visual Impact
109	<b>Dóra Szerencsés</b> and Zsombor Zrubka	Supporting health and risk behavior change through targeted health education: a cross-sectional web-based segmentation study among Hungarian adults

71	Najeeb Albate and <b>Andrea Tick</b>	Definition, Importance and Interconnectedness of Digital, Media and AI Literacy, and Safety and Security: A Systematic Literature Review
54	<b>Fruzsina Hoványi-Nagy</b> , Péter Szikora and Ádám Béla Horváth	Generational patterns and digital learning profiles behind AI adoption: A structural and segmentation approach
57	<b>Pál Fehér-Polgár</b> and Péter Szikora	Cross-Domain Asymmetry in Risk–Benefit Weighting: Evidence for Benefit-Dominant Decision Architecture in IT Security Contexts
139	<b>András Keszthelyi</b>	The Effect of Continuous Assessment on Student Performance and Participation in an IT Course within a Business Informatics Program  Pending paper, since no registration fee payment

**15:40 – 17:00 [T1p] e-poster Special Session on Digitalisation, Generation Research, Consumer Trends**

Pre-function area on 1<sup>st</sup> Floor

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

142	<b>Attila Balogh</b>	Consumer Perceptions of Corporate Innovation and Willingness to Pay: A Study of Generation Z
161	Anett Popovics and <b>Monika Garai-Fodor</b>	Special diets and dietary choices among university students
162	<b>Nikolett Huszak</b> and Monika Garai-Fodor	Training and developing the next generation: Why are soft skills more important than ever?
168	<b>Ágnes Csiszárík-Kocsir</b>	Digital currencies and the generation gap: patterns of cryptocurrency awareness  Pending paper, since no registration fee payment
174	<b>Ágnes Csiszárík-Kocsir</b> , Nazerke Tolkyzbek, Gulmira Mukhanova, Saltanat Bolatkyzy, Nuray Bakhytova and Alfonz Antoni	Systematization of Strategic Indicators for Industrial Waste Management in Supply Chains – A Systematic Literature Review
11	Norbert Deák, Ádám Lantos, Kristóf Koppány Enczi and <b>Bertalan Beszédes</b>	Thermal and Electrical Design of an Aluminum Substrate High-Power LED Matrix

**18:00 – 21:00 Welcome Reception**

Room Nílus on 8<sup>th</sup> Floor

# July 3 (Friday)

8:00 – 17:00 Registration

1<sup>st</sup> Floor

9:00 – 11:00 Parallel sessions

9:00 – 11:00 **[F1a] Session on Artificial Intelligence in Engineering II**

Room Ganges 3 on 1<sup>st</sup> Floor

Session chair: Anca-Adriana Petcut-Lasc

52	<b>Alaa Ahmed</b> and Henrietta Tomán	Bee Formation for Wind-Resilient Swarm Drone Navigation in Dynamic Environments
92	Binglong Yan, Xufeng Liu, Yuanhan Wang, Dongyang Song, <b>Lin Wang and Zhikun Liao</b>	MobileNetV2-Enhanced Piecewise Planar Representation for RGB Guide Depth Super-Resolution
105	Gábor Szűcs, Péter József Nagy, <b>Dávid Papp</b> and Chun-Wei Tsai	An efficient multi-camera person tracking system based on Re-ID and trajectory association
116	<b>Patrik Czakó</b> , Gábor Kertész and Sándor Szénási	Trainable Smooth-Rotation Transforms with Learned Channel Scales for LLM Quantization
150	Jia-Luo Yan, Yun-Han Hsieh, Dai-Lun Chiang and <b>Hsin-Ta Chiao</b>	Detection and Analysis of Phishing Emails Using Time-Series Models
8	Esra Sivari, Said Akca, Salih Demir, Recep Eryigit and <b>Bulent Tugrul</b>	A Deep Learning Approach for Classifying Dianthus Seeds

9:00 – 11:00 **[F1b] Special Session on Women in Engineering and Intelligent Systems**

Room Ganges 4 on 1<sup>st</sup> Floor

Session organizers and chairs: Melánia Puskás and Panna Zsoldos

101	<b>Barbara Simon</b> , Lehel Dénes-Fazakas, György Eigner, Levente Kovács and László Szilágyi	Large Language Models in Medical Imaging: A Methodological Review of Text-Only, Vision-Language, and Tool-Augmented Architectures
102	Barbara Simon, Ádám Hartveg, <b>László Szász</b> , Lehel Dénes-Fazakas, György Eigner and Levente Kovács	Review of Large Language Model-Enhanced Curriculum Design in E-Learning

111	<b>Eszter Lukács</b> , Kristóf Takács and Tamás Haidegger	Open-H Acquisition Pipeline and Surgical Robotics Dataset Evaluation
114	Gergely Nyilas, Rita Fleiner and <b>Eszter Kail</b>	Decision-making in AI systems
147	<b>Melánia Puskás</b> , Martin Ferenc Dömény, Lilla Kisbenedek, Levente Kovacs and Dániel András Drexler	Hybrid Methods in Tumor Modeling: A Comprehensive Review <b>Pending paper, since no registration fee payment</b>
158	<b>Borbála Gergics</b> and Dániel András Drexler	Hybrid model of tumor growth and dormancy on in vitro spheroid measurement data <b>Pending paper, since no registration fee payment</b>

9:20 – 11:00 **[F1c] Session on Web Engineering, Man-Machine Systems and CAD/CAM/CAE Systems**

Room Ganges 5 on 1<sup>st</sup> Floor

Session chair: Attila Biró

18	<b>Miklós Sipos</b> , Pál Egyed and András Keresztúri	A Cloud-Based Platform for Side-by-Side Machine Translation Comparison with User Feedback and BLEU-Based Evaluation
145	<b>Sebastian-Constantin Marginean</b> and Szalai-Stefan Dragos	Implementation of a Distributed Web Scraping Architecture Based on Stream Processing and Self-Adaptive Semantic Extraction via Large Language Models
137	<b>Erick Noboa</b> , Dániel Horti, György Eigner and Péter Galambos	Bio-Intuitive Navigation for Agricultural Robotics: A Case Study into sEMG-Based Control of the CAMEL Platform
22	<b>Snježana Babić</b>	Relationship Between Human-Like Communication and Trust in ChatGPT Use in Everyday Life Among Croatian Users
49	<b>Viktor Gergely Rácz</b> and Balázs Mikó	Influence of Milling Strategies on Micro- and Macro-Geometrical Accuracy

9:20 – 11:00 **[F1p] e-poster Session**

Pre-function area on 1<sup>st</sup> Floor

Session chair: Ján Vaščák

28	<b>Simona Chovancová</b> , František Babič, Martin Števík, Marek Malík and Anton Dzian	Sequential YOLOv8 Training for Detection of A-Lines and B-Lines in Lung Ultrasound Images
37	<b>George-Emil Bobiričă</b> , Patricia Anelis Donisan, Rares Cristian Stanescu, Nicolae Goga, Dan Garlasu and Ramona Popa	Autonomous and Manually Controlled Tennis Ball Collecting Robot Using Raspberry Pi and YOLO

56	<b>Zsolt Geier</b> and Gábor Kertész	Unsupervised Industrial Anomaly Detection Using I-JEPA Features
72	<b>Samuel Fodor</b> and Peter Bednár	Data-Free Multilingual Toxicity Detection via Weight-Space Fusion of Monolingual Models
107	<b>Viliam Balara</b> and Kristina Machova	BERT-Based Detection of AI-Generated Text: A Comparative Study of BERT Variants on the HC3 Dataset
138	<b>Martina Szabóová</b> , Ruslan Pylypiv and Ján Magyar	Multimodal Emotion Recognition under Class Imbalance with Focus on Minority Emotions
80	<b>Levente Dr. Széles</b> and Richárd Dr. Horváth	Application of advances in additive manufacturing for vulnerable passenger protection
81	<b>Levente Dr. Széles</b> and Richárd Dr. Horváth	Novel lattice concept with geometrically forced auxeticity
33	<b>Jean Rosemond Dora</b> , Ladislav Hluchy and Jean Rosemond Dora	Binary Repository Management: An Analysis of Artifactory within Modern DevOps Ecosystems
96	Bohumil Adamec, Juraj Machaj and <b>Peter Brida</b>	Design and Optimisation of RF Filter for Coexistence of DVB-T2 and 5G/LTE Networks in 700 MHz Band Using Evolutionary Algorithm
178	<b>György Pócsik</b> , Kristóf Havasréti, Mihály Réger and Richárd Horváth	Development of a Novel Evaluation Method for the Extension of the Oliver–Pharr Instrumented Indentation Test to the Macro-Scale Range

11:00 – 11:20 Coffee break

11:20 – 12:40 Parallel sessions

11:20 – 12:40 **[F2a] Session on Communications Software and Systems in Engineering**  
Session chair: Eszter Kail

Room Ganges 3 on 1<sup>st</sup> Floor

141	Murat Osmanoglu, Mert Unal, <b>Bulent Tugrul</b> and Yilmaz Ar	A Permissioned Blockchain Framework for Secure and Transparent Online Examinations
173	<b>László Horváth</b>	Control, Organization and Integration of Model Driven Responsible Research in Engineering
175	<b>Richard Galli</b>	From Classical Boids to Realistic UAV Defense Scenarios: A Physics-Enhanced Drone Swarm Simulation Framework
176	Balázs Zavadil, <b>Bálint Szabó</b> and Balázs Benyó	Size-Dependent Effects of Connected-Component Filtering in VNET-Based TBI Lesion Segmentation

**11:20 – 12:40 [F2b] Session on Computational Intelligence in Engineering I**Room Ganges 4 on 1<sup>st</sup> Floor

Session chair: Levente Széles

41	<b>Tianchen Hang</b> , Jie Zhang and Xiaobo Liu-Henke	An Adaptive Genetic Algorithm with Dynamic Parameter Adjustment for Improving Optimization Performance
130	<b>Ján Vaščák</b> , Samuel Vilkovský, Ľubomír Urblík and Iveta Zolotová	Autonomous Aircraft Control Using Double Deep Q-Networks
167	<b>Anca-Adriana Petcut-Lasc</b> , Flavius-Maxim Petcut and Valentina Emilia Balas	Next-Generation Global MPPT under Partial Shading: A State-of-the-Art Review and a Conceptual Framework Based on the War Strategy Optimization Algorithm
154	<b>Tamás Panyi</b> , Attila Farkas and Gábor Kertész	MetaPAC: Adaptive Compression Across Transformer Architectures

**11:20 – 12:40 [F2c] Session on Systems Engineering I**Room Ganges 5 on 1<sup>st</sup> Floor

Session chair: Tibor Dobján

24	<b>Mohammed Al-Okby</b> , Thomas Roddelkopf and Kerstin Thurow	Sensor Fusion of UWB and IMU for Optimized Indoor Positioning Using Kalman Filtering
82	Federico Ferrara, Alessandro Borri, Simona Panunzi and <b>Andrea De Gaetano</b>	Stubborn Agents in Evolving Network Opinion Dynamics: Models, Analysis and Extensions
6	Mohamad Aboushaar and <b>Mehdi Ghommem</b>	Static and Dynamic Performance Analysis of Electrostatic Micromirror Systems
4	<b>Marek Horváth</b> , Matej Džamba and Emília Pietriková	Green Computing through Evaluation of Source Code Energy Consumption Using Static and Dynamic Methods

12:40 – 14:00 Lunch

Restaurant on ground floor

**14:00 – 15:20 [F3a] Session on Artificial Intelligence in Engineering III**Room Ganges 3 on 1<sup>st</sup> Floor

Session chair: Andrea Tick

48	<b>Janos Polgar</b> and Gergo Bogacsovics	Building Robust Deep Learning-Based Solutions for Automatic Weld Quality Assessment
110	Jia-Sheng Wu, Wei-Che Liao, Lung-Pin Chen and <b>Hsin-Ta Chiao</b>	A Hybrid ACO-GA Approach for Drone Food Delivery Path Planning in Campus Environments

128	<b>László Ady</b> , Dóníz Borsos, György Schuster, Péter János Varga, Ivanna Betušová and Daniel Tokody	AI Safety and Functional Safety in Critical Infrastructure: An Integrated Framework Combining IEC 61508 with 5G and LoRa Communication Networks for Civil Protection
136	Redina An Fadhila Chaniago and <b>Yo-Ping Huang</b>	Bird Behavior Prediction using YOLO-Pose Keypoint Detection and Spatial-Temporal Graph Modeling

14:00 – 15:20 **[F3b] Session on Computational Intelligence in Engineering II**

Room Ganges 4 on 1<sup>st</sup> Floor

Session chair: Bertalan Beszédes

16	<b>Ahmed Chiheb Ammari</b> and Amine Lahyani	Reward Shaping Strategies for Reinforcement Learning Control of PV--Battery Systems under Demand Charges
118	<b>Nikolay Penchev</b> and Angel Marchev	Multi-Objective Knapsack-like Portfolio Optimization using Evolutionary Algorithm
144	<b>Zoltán Dhulfiqar</b> , Tariq Emad, Faten Imad Ali, Peter Hejel, Laszlo Konyves and <b>Marta Alexy</b>	Early Warning Accuracy of a Behavioral Precision Livestock Farming Platform
170	Attila Biró, Aakif Ahmad Mir and <b>László Szilágyi</b>	Distribution-Free Cantelli-Bounded Longitudinal Risk Modeling for Pre-Infective Pneumonia Forecasting

14:00 – 15:20 **[F3c] Session on Intelligent Mechatronics and Robotics Systems I**

Room Ganges 5 on 1<sup>st</sup> Floor

Session chair: Oussama Khatib

26	<b>Mohamed Ali Tlili</b> , Jiahao Huang, Anna Bach, Thomas Roddelkopf, Heidi Fleischer and Kerstin Thurow	Complex Multi-Robot Automation System for Enzymatic Assay Applications — Toward Fully Automated Laboratory Processes
46	Dániel Dreiszig, Szilárd Aradi and <b>Ádám Szabó</b>	Fuel-Minimizing Predictive Speed Control for Tandem-Pump Hydrostatic Transmissions
140	Lalith Lochan R, Akshay Sharma G and <b>Rashmi Ugarakhod</b>	Machine Learning–Driven Energy Optimization and Bottleneck-Aware Parallel Line Planning in Smart Manufacturing Systems
115	<b>Dániel Horti</b> , Kristián Sopkovič, Daniel Hládek and Artúr István Károly	Optimizing Training Data Diversity with DataSpinner: An LLM-driven Curator-Agent Approach

17	Daniel Olšovský, <b>Marek Horváth</b> and Emília Pietriková	Commit Classification for Developer Style Profiling Using Transformer Models and Quantitative Change Metrics
36	Peter Svoboda, <b>Marek Horváth</b> and Emília Pietriková	AST-Based Source Code Similarity Visualization Using Clustering and Anomaly Detection
47	Kristína Mašlanková, <b>Marek Horváth</b> and Emília Pietriková	Identifying Student Programming Styles Using Static Code and Behavioral Repository Data
64	Jakub Vysočan, <b>Lenka Bubeňková</b> and Emília Pietriková	Detection of AI-Generated Source Code in Programming Assignments
134	Marek Ružička, <b>Martin Štancel</b> , Michal Takáč and Pavol Breza	Advances in Deep Learning for Fluid Mechanics for Predicting Complex Water Flow Phenomena in Water Structures
68	<b>Tianle Jie</b> , Jiachao Cai and Goda Tibor	Divergent Muscle Mechanics and Energetic Redistribution During Landing in Chronic Ankle Instability and Copers
75	<b>Jiachao Cai</b> , Tianle Jie and Tibor Goda	Biomechanical Signal Reorganization and Compensation Patterns in Ankle-Constrained Gait: A Time-resolved Systems Analysis
98	Lubomir Urblik, Jaroslav Kupec, <b>Jan Vascak</b> and Erik Kajati	Automated Testing of Indoor Localization Methods
157	<b>Tamás Tornai</b> , Igor Fürstner and László Gogolák	Impact Analysis of Cyber-Physical Attacks on Industrial Motion Control Systems
65	Mikuláš Kašinský, <b>Lenka Bubeňková</b> and Emília Pietriková	Applying Gamification in Educational Marketing for University Recruitment
66	Benedek Feke, <b>Lenka Bubeňková</b> and Emília Pietriková	A Gamified Approach to Visualizing Algorithms Through Everyday Analogies
135	<b>Pavol Petrovič</b> , Cuong Van Tran, Hieu Nguyen Trung and František Babič	LLM Agents in Software Development: A Systematic Mapping Study of Capabilities, Failure Modes, and Governance Guardrails
149	László Szoboszlai, Stefan Gubo and <b>Sandor Szenasi</b>	Maximum Flow Simulator and Visualizer

15:20 – 15:40 Coffee break

15:40 – 17:00 Parallel sessions

15:40 – 17:00 **[F4a] Special Session on Soft Computing-driven Intelligent Systems and Applications**

Room Ganges 3 on 1<sup>st</sup> Floor

Session organizers and chairs: Edit Laufer, Ákos Odry and Zoltán Papp

13	<b>Imre Kovács</b> , Márta Takács, Péter Sarcevic and Ákos Odry	ANFIS-Based Online Approximation of Optimized Covariance Models in EKF Localization
35	<b>Zsombor Kovacs</b> and Bela Andras Frigyik	Performance of Different Reinforcement Learning Architectures in Minigrid Environment
91	<b>Zeffer Tamás</b> , Volk János, Török Tímea and Papp Andrea	Hardware Validation of a Memristor-Based Spike Encoder for Neuromorphic Keyword Spotting: Closing the Sim-to-Real Gap
165	<b>Ingrid Langer</b> and <b>Edit Laufer</b>	Optimization of RGB Illumination for Color Discrimination Enhancement Using a Fuzzy Logic Model

15:40 – 16:55 **[F4b] Special Session on Recent PhD Emerging Excellence in Intelligent Engineering I**

Room Ganges 4 on 1<sup>st</sup> Floor

Session organizer and chair: László Horváth

60	<b>Milán Balázs</b> , Bálint Babenyecz and György Eigner	High-Availability and Secure Access to Distributed Docker Daemons via Keycloak-Authenticated Nginx Proxy
69	<b>Adam Hartveg</b> , Barbara Simon, Lehel Dénes-Fazakas and Dezső Sima	Artificial Intelligence in Education: Automated Assessment and Essay Scoring Systems
153	<b>Csaba Arendas</b> , <b>Tamás Haidegger</b> and Zsombor Zrubka	Enhancing Scoping Reviews with Large Language Models: Iterative Prompt and Script Engineering for Venture Capital Investment Strategy Research
39	<b>Ioan Marius Pisak Lukáts</b> , Levente Kovacs and <b>László Szilágyi</b>	Engineering Handcrafted Features for Machine-Learning-Based Segmentation of Brain Tumors in Multi-Spectral MRI Records
63	<b>Azar Attila Vamos</b> and Jozsef Fogarasi	Technical Efficiency Analysis of Siemens S7-1500 Technology PLCs: Investigating Cam Profile Interpolation Time

18:00 – 21:00 **Banquet and Award Ceremony**

Room Nílus on 8<sup>th</sup> Floor

# July 4 (Saturday)

8:40 – 11:00      **Registration** 1<sup>st</sup> Floor

8:40 – 10:00      Parallel sessions

8:40 – 10:00      **[S1a] Session on Artificial Intelligence in Engineering IV** Room Ganges 3 on 1<sup>st</sup> Floor  
 Session chair: Márta Alexy

74	Mircea Trifan, Bogdan Ionescu, Dan Ionescu and <b>Omar Gouda</b>	Agentic Document Engineering: Automated Workflows for Editable Technical Artifacts
113	Shih-Yuan Yang, Yu-Hsin Tien, Cheng-Jui Lai, Yue-Shan Chang and <b>Hsin-Ta Chiao</b>	Enhancing Wind Turbine Blade Defect Detection Using UAV and Laboratory Images via Synthetic Data Augmentation
131	<b>Vilmos Madaras</b> , Zoltán Vidnyánszky and Béla Weiss	Machine Learning-Based Evaluation of Multi-Site MRI Quality Metric Harmonization
151	<b>Kata Horváth</b> and Csaba Hajdu	Local RAG-based learning assistant in educational applications

9:00 – 10:00      **[S1b] Session on Intelligent Mechatronics and Robotics Systems II** Room Ganges 4 on 1<sup>st</sup> Floor  
 Session chair: Anna Bánáti-Baumann

14	Mathivanan Viruthachalam, Vimal Kumar Stephen, <b>Ramesh Palanisamy</b> , Mohammed Tauqeer Ullah, Senthil Jayapal and Mohamed R Rafi	Enhancing Personalized Education: A Raspberry Pi-Based Smart Robot (RoboLearnPI) for Adaptive Learning Environments
29	<b>Shohei Taga</b> , Munehiro Takimoto, Tomofumi Matsuzawa, Naoki Abe, Tsutomu Kumazawa and Yasushi Kambayashi	Avoiding Hazardous Areas through the Dissemination of Location Data: a Novel Application of SSIDs
97	<b>David Kovacs</b> , Stefan Lück, Emre Öztürk, Dingyuan Wan, David Schlatzer and Stefan Konwalinka	Automated Testing of Automotive Electrical and Electronic Architectures with Real-Time HiL Simulation and AI-Driven Robotics

10:00 – 10:20 Coffee break

10:20 – 12:00 Parallel sessions

10:20 – 12:00 **[S2a] Session on Artificial Intelligence in Engineering V**  
Session chair: David Kovacs

Room Ganges 3 on 1<sup>st</sup> Floor

34	<b>Gaye Ediboglu Bartos</b> , Nesibe Yalçın and Sibel Ünaldi	Few-Shot Deep Learning for Granite Texture Classification: Adapting to New Classes with Minimal Data
164	<b>Csaba Hajdu</b> and Adam Csapo	Hypergraph-Based Robotic System Modeling and Tensor Compilation for Intelligent Engineering Systems
53	<b>Levente Major</b> , Mark Szigeti, Levente Kovács and György Eigner	Evaluating Diabetes Distress Using LLM Digital Twins: A Proof of Concept Case Study <b>Pending paper, since no registration fee payment</b>
120	Faten Imad, Hadeel K. Aljobouri, Ali M. Hasan and <b>Alwahab Dhulfiqar Zoltan</b>	A Stacking Ensemble Learning Framework for Robust PET/CT Lung Cancer Multiclass Classification
179	Mircea Trifan, Bogdan Ionescu, Dan Ionescu and <b>Omar Gouda</b>	Graph-Grounded Pipelines: Orchestration Semantics for Agentic Document Engineering

10:20 – 11:20 **[S2b] Session on Systems Engineering II**  
Session chair: Shohei Taga

Room Ganges 4 on 1<sup>st</sup> Floor

117	<b>Tibor Dobján</b> , Éva Oszvényiné Kraucz, Gábor Pór and Szilveszter Pletl	Acoustic emission hit detection with autoregressive filtering and sequential probability ratio test
148	<b>Victor Kwabla Senaya</b> , Eva-H. Dulf, György Eigner and Levente Kovacs	Design and Evaluation of Computer-Based Multiple Drug Dosing Control for Cancer Tumor Treatment
152	<b>Attila Ötvös</b> and Csaba Hajdu	Design and Architecture of an Assistive Smart Glass System for the Visually Impaired

43	<b>Seid B. Muhammed</b> , Enikő Tari and Zsombor Zrubka	Systematic Review of Biomedical Systematic Reviews: What Percent of the Synthesized Outcomes in Systematic Reviews Were Presented in the Source Primary Articles as Text, Table, Chart or Graph?
93	<b>Imre Pardi</b> and Anna Bánáti	A Hybrid Markov–LLM Architecture for Scalable User Simulation in Cyber Ranges
94	<b>Elemér Balázs</b> , Mária Sósne Pintye, Sándor Szénási and Zoltán Vámosy	A Review of Automatic Handwriting Evaluation for Developmental Dysgraphia Detection
123	<b>Anita Szappan</b> and Zsolt Krutilla	Zero-Shot and Few-Shot Synthetic Question–Answer Generation with Hungarian Large Language Models on Consumer Complaint Data
12	<b>Samir Rasulov</b> and Péter Bakucz	Propagation of Uncertainty in Chaotic Vehicle Dynamics: A Monte Carlo and Lyapunov-Based Approach

11:40 – 13:00 Lunch

**Thank you for your contribution!**

**See you next year at INES 2027!**