Thursday 29 May 2025

09:00 - 09:30	Opening Ceremony - Day I: **Academician Bela Balint,** Minister of Science, Technological Development and Innovation **Prof. Vladimir Rankovic**, Rector of the University of Kragujevac **Prof. Nenad Filipovic,** Chair of the AAI2025 conference

09:30 - 10:30	Keynote speakers: ***Large Documents Must Allow More than Passive Reading*** **Prof. Herman Maurer** ***Collaborative Innovation in AI: Partnerships Between Academia, Industry, and Government*** **Prof. Borko Furht** Chair: Nenad Filipović

10:30 - 11:00	Coffee Break

11:00 - 12:00	Keynote speakers: ***Fundamentally Accelerating Genome Analysis*** **Prof. Onur Mutlu** ***3D Computer Vision: Reconstruction, Generation, and Manufacturing*** **Prof. Kyoung Mu Lee** Chair: Veljko Milutinovic

Session T.1A 12:00-14:00

Energy, Transport and Environmental Science

Chair: Boban Stojanović

T.1A.1 - Application of Neural Networks in Assessing Body Comfort During Driving – Igor B. Saveljić, Slavica D. Mačužić Saveljić

T.1A.2 - Comparative Analysis of Expert-Based and AI-Driven Methodologies in Children's Traffic Safety Education – Aleksandar Trifunović, Aleksandar Senić, Nenad Filipović, Dragan Lazarević

T.1A.3 – Dynamic LSTM-Based Framework for Adaptation to Concept Drift in Energy Consumption Forecasting – Jelena Joksimović, Janez Povh

T.1A.4 – A CCGAN-Driven Method for Context-Aware Correction of River Flow Time Series – Boško Laković, Dušan Stefanović, Nenad Bogdanović, Boban Stojanović

T.1A.5 – The use of AI in Developing Architectural Designs/Expo Pavilion Project – Aleksandar Rudnik Milanović

T.1A.6 – Comparison of CNN Architectures for Earthquake Damage State Classification of Different Building Types – Miloš Kovačević, Filip Đorđević, Mladen Nikolić, Đorđe Nedeljković, Zoran Babović, Zoran Pucanović, Marija Ivanović, Nevena Simić, Marko Marinković

T.1A.7 – Crop Yield Prediction Using Sentinel-2 Satellite Imagery and Deep Learning Models – Karlo Bala, Marko Pavlović, Michele Bandecci

T.1A.8 – Short Review of Machine Learning Support in the Development of Soft Piezoelectric Materials – Kristina Vasić, Marija Branković, Danilo Petrović, Ana Kaplarević Mališić, Nenad Grujović, Fatima Živić

Session T.1B 12:00-13:30

Signal and Image Processing

Chair: Tijana Geroski

T.1B.1 – Lung Cancer Classification from CT Images Using the DINOV2 Vision Transformer Architecture – Sylvester Agyapong, Tijana Geroski, Nenad Filipović

T.1B.2 – Unlocking Cardiographic-Based Biometric Potential: Insights From Feature Selection – Ilija Tanasković, Ljiljana B. Lazarević, Goran Knežević, Nikola Milosavljević, Olga Dubljević, Bojana Bjegojević, Nadica Miljković

T.1B.3 – Feature Subset Selection for Low Back Pain Prediction: Machine Learning Approach – Minja Vuković, Olivera Đorđević, Ljubica Konstantinović, Nadica Miljković

T.1B.4 – Human-AI Collaboration in Shaping Modern Survey Design: Opportunities and Challenges – Resulbegoviq Hakile, Stamatović Irina

T.1B.5 – Comparison of RFE and SHAP for PRV Feature Ranking in Cognitive Stress Scenario – Katarina Vujić, Marija Novičić, Milica M. Janković

T.1B.6 – Feature-Based Machine Learning and Deep Learning Networks for Real-Time Stress Classification from GSR and HR Signals – Tanja Vuković, Jovana Malešević, Matija Štrbac

14:00 - 15:00	Buffet Lunch

Session T.2 15:00-16:30

LLM models and Big Data

Chair: **Zhou Liang**

T.2.1 – The Possibilities and Limitation in Automatic Personality Trait Detection Based on Text Essays Written in Serbian – Miljan Đorđević, Veljko Milutinović

T.2.2 – Analysis and Forecasting of Electricity Consumption in the Data Center – Danilo B. Savić, Velibor Isailović, Vladimir Mladenović

T.2.3 – Enabling Robust Elderly Care Robotics: Task Decomposition and Self-Evaluation Frameworks Enhanced by Large Language Models – Jingzhen Guo, Liteng Liu, Wenlong Zhao, Liang Zhou

T.2.4 – Tackling Online Harassment Using Natural Language Processing and Metaheuristic Optimization – Nikola Novaković, Luka Jovanović, Miodrag Živković, Petar Spalević, Nebojša Bacanin, Vico Zeljkovic, Katarina Milojković

T.2.5 – Fuzzy C-Means Over Node Embeddings Outperforms Leiden for Overlapping Community Detection in Large-Scale Customer Graphs – Miloš Jovičić, Nikola Prodanović, Aleksandra Vulović, Gordana Jovičić, Aleksandar Radaković, Nenad Filipović

T.2.6 – Fairness Through Synthesis: Bias Mitigation Through Probabilistic Modeling and Matching Techniques – Vasileios C. Pezoulas, Nikolaos S. Tachos, Stefanos Gkikas, Manolis Tsiknakis, Dimitrios I. Fotiadis

16:30 - 17:00	Coffee Break

17:00 - 18:00	Keynote speakers: ***Using AI to Discover Conjectures – The Balkans Continued Fraction Example*** **Prof. David Naccache** ***Generative AI for Robust Map Generation from Satellite Imagery*** **Prof. Naphtali Rishe** Chair: Tijana Geroski

Session T.3 18:00-20:00

Chemical and Biological applied AI

Chair: Zoran Marković

T.3.1 – Using Agent-Based Models for Generation of Surrogate Model Virtual Population: Atherosclerosis Case Study – Lemana Spahić, Nenad Filipović

T.3.2 – Diabetes Melitus and AI-Clinical Practice – Tamara Bošković, Nenad Filipović

T.3.3 – Machine Learning Based Prediction of Cell Death After Silver Nanoparticle Treatment – Safi Ur Rehman Qamar, Wasi Ur Rehman Qamar, Nenad Filipović

T.3.4 – Recognizing Patterns of Emerging Chronic Obstructive Pulmonary Disease in Heart Failure Patients Through the Use of Machine Learning Techniques – Ognjen Pavić, Lazar Dašić, Anđela Blagojević, Tijana Geroski, Nenad Filipović

T.3.5 – Benefits of Using Genetic Algorithms in Estimation of Parameters of a Numerical Model for Prediction of Cancer Progression – Tijana Đukić, Nevena Milivojević Dimitrijević, Marko Živanović, Nenad Filipović

T.3.6 – Harnessing Artificial Intelligence for the Design of New Potential Inhibitors of the Lipoxygenase – Tamara M. Mladenović, Dušica M. Simijonović, Edina H. Avdović, Dejan A. Milenković, Zoran S. Marković

T.3.7 – Smarter than Mutation: AI-Based Drug Modification Against Pharmacological Resistance – Kristina Milisavljević, Žiko Milanović, Marko Antonijević

20:00 - 24:00	Gala Dinner

Friday 30 May 2025

9:00 - 9:30	Keynote speaker: ***The Road to General AI in Medicine: The Promise and Challenges*** **Prof. Zoran Bosnić** Chair: Borko Furht

9:30 - 10:00	Coffee Break

Session F.1A: 10:00-12:00

Financial, Marketing and Law applied AI

Chair: Marko Selaković

F.1A.1 – Leveraging Deep Learning and Word Embeddings for Financial Sentiment Analysis with ChatGPT-Based Data Augmentation – Vesna M. Ranković, Ljiljana N. Matić, Zoran S. Kalinić

F.1A.2 – The Role of Artificial Intelligence in Marketing Strategies: Opportunities and Challenges – Ana Spasojević

F.1A.3 - Algorithmic Dependencies and Regulatory Gaps: Journalism in the Age of AI – Tanja Kerševan

F.1A.4 – Will AI Replace Humans in Strategizing Communications? Ethical Considerations – Marko Selaković, Nikolina Ljepava, Marija Gačić, Nenad Filipović

F.1A.5 – The Interplay of Artificial Intelligence and International Public Law: Principle of Non-Intervention – Dragan Dakić

F.1A.6 – Self-Driving Dilemmas: The Collision of Technology and Legal Responsibility – Žaklina Spalević, Aleksanda Stojnev Ilić, Petar Spalević, Miloš Ilić, Dobrivoje Dubljanin

F.1A.7 – International Science Olympiads in Artificial Intelligence: a Passing Trend, or Here to Stay? – Vladimir M. Milovanović

F.1A.8 – Economic Evaluation of Heart Failure Strategies in the StratifyHF Project – Marija Gačić, Milica Kaplarević, Lazar Velicki, Đorđe Jakovljević, Nenad Filipović

Session F.1B: 11:00-12:00

Generative AI

Chair: Veljko Milutinović

F.1B.1 – Gamifying Risk Management: a Generative AI-Driven Tetris-Inspired Simulation for Enhanced Decision-Making – Zoran Ć. Keković, Tijana Z. Čomić, Dragan V. Vukmirović, Ozren Dzigurski

F.1B.2 – A Comparison of Six Selected Computing Paradigms – Veljko Milutinović, Nenad Korolija

F.1B.3 – A Rapid Review on Artificial Intelligence Algorithms in The Study of Benthic Ecosystems: Applications, Performance and Future Trends – Gabriel Rivas-Mena, Nenad Filipović

12:00 - 14:00	Keynote speakers: ***AI at the Edge of Precision: Accelerating AI Efficiency with Approximate Computing*** **Prof. Freddy Gabbay** ***Digital Preservation of Family Heritage Enhanced Using Artificial Intelligence*** **Prof. Veljko Milutinović** ***On the Mission of the Cosmos University in Data Science and Artificial Intelligence*** **Prof. Panos Razis** ***The Mission of NanoHUB*** **Prof. Gerhard Klimeck** Chair: Zoran Bosnić

14:00 - 15:00	Buffet Lunch

Session F.2: 15:00-16:30

Heart Failure

Chair: Bogdan Milićević

F.2.1 – Software Architecture for StratifyHF: Heart Failure Risk Stratification and Diagnosis – Bogdan Milićević, Miljan Milošević, Miloš Ivanović, Nenad Filipović

F.2.2 – Heart Failure Disease Progression Assessment in Patients Through the use of Traditional Machine Learning Approaches – Anđela Blagojević, Smiljana Tomašević, Ognjen Pavić, Lazar Dašić, Tijana Geroski, Andrej Preveden, Lazar Velicki, Nenad Filipović

F.2.3 – Impact of Different Biomarkers on the Prediction Capabilities of Machine Learning Models in the Diagnosis of Heart Failure – Lazar Dašić, Anđela Blagojević, Ognjen Pavić, Tijana Geroski, Nenad Filipović

F.2.4 – Prediction of Different Symptoms Emergence in Heart Failure Patients Using Machine Learning Approaches – Teodora Jeremić, Lazar Dašić, Ognjen Pavić, Anđela Blagojević, Nenad Filipović

F.2.5 – Assessment of Morbidity in Patients with Heart Failure Using Traditional Machine Learning Techniques – Đorđe Ilić, Ognjen Pavić, Lazar Dašić, Anđela Blagojević, Nenad Filipović

F.2.6 – Risk of Death Assessment in Patients Suffering from Heart Failure Using Regression Analysis Techniques – Filip Filipović, Lazar Dašić, Anđela Blagojević, Ognjen Pavić, Nenad Filipović

16:30 - 17:00	Coffee Break

17:00 - 18:30	**Keynote speaker:** ***On the Mission of the University of Wisconsin in the Domain of Entrepreneurship and Discovery*** **Prof. Jon Eckhardt** ***The Role of AI in Outdating Homo Sapiens*** **Prof. Alexander D. Stajković** ***Open Platforms for the Embodied AI era*** **Prof. Luca Benini** Chair: David Naccache

Session F.3: 18:30-19:45

Biomedical and Sport Engineering

Chair: Aleksandra Vulović

F.3.1 – Predicting of Controlled Drug Release from Intraocular Lens Using a Genetic Algorithm – Ana N. Mirić, Strahinja P. Milenković, Nevena N. Milivojević, Marko N. Živanović, Nenad D. Filipović

F.3.2 – Random-Forest Risk Classification in Hypertrophic Cardiomyopathy Patients – Jelena Pavić, Ognjen Pavić, Marko Živanović, Katarina Virijević, Tamara Mladenović, Nenad Filipović

F.3.3 – Explainable AI for Continuous Glucose Monitoring Data – Aleksandra I. Stojnev Ilić, Dragan H. Stojanović, Natalija M. Stojanović, Miloš N. Ilić

F.3.4 - Enhancing Robotic Grasping with Attention Mechanism and Slam-Based in the Dynamic Grasping Scenario – WL Zhao, JZ Guo, S Zhang, LT Liu, YM Jiang, JC Guo, L Zhou

F.3.5 - Multipurpose Wearable Sensory Device for Heart Failure Diagnosis and Biomarker Measurement - Nemanja Marković, Tijana Geroski, Ognjen Pavić, Lazar Dašić, Emil Jovanov, Nenad Filipović

19:45 - 20:00	Closing Ceremony