

SLOVENIAN CONFERENCE ON ARTIFICIAL INTELLIGENCE I.

SLOVENSKA KONFERENCA O UMETNI INTELIGENCI I.

Thursday, 8th October 2026 / Četrtek, 8. oktober 2026

Great Lecture Hall / Velika predavalnica

Link for online attendance / Povezava za spletno udeležbo: <https://zoom.us/j/92445125633>

9:00 – 11:00	Session A / Sekcija A - Chair / Vodi Emilija Kizevska • Justyna Skibińska, Teodora Matić, Aleksander Sadikov, Vida Groznik, Dejan Georgiev Hypomimia and Facial Action Units for Distinguishing Parkinson's Disease from Depression: A Foundation Model Approach • David Calhas, Žiga Črv, Vida Groznik, Dejan Georgiev, Aleksander Sadikov A Cosine Hazard Basis for Parkinson's Disease Progression • Nerma Begić, Mitja Luštrek Modelling Pediatric Cardiometabolic Health Through Longitudinal Relationships and Personalized What-if Simulations • Ana Poklukar, Gabrijel Okorn, Leon Costa, Gašper Slapničar, Mitja Luštrek, Zoja Anžur Predicting Psychological States from Computer Activity Data • Viktorija Projkova, Martina Miskova, Kristina Kitrozoska, Teodora Domazetovic, Emilija Kizevska, Hristijan Gjoreski Participant-Independent Prediction of Self-Reported Valence and Arousal in Virtual Reality Empathy Scenes Using EmteqPRO Sensor Data • Tomi Božak, Zoja Anžur, Gašper Slapničar Comparison of Eye-Tracking Representations for Engagement Inference in Knowledge Workers • Monika Stoilkovska, Angela Nastovska, Rezearta Ljuzha, Emilija Kizevska, Hristijan Gjoreski Unsupervised Clustering of Smartphone Sensor Data: Structure Discovery and Post-Hoc Transport-Mode Analysis • Žiga Kolar, Alexandre Baran, Matjaž Gams Machine Learning-Based Detection of Cutting Tool End-of-Life Using Accelerometer Data
11:00 – 11:30	Break / Odmor

11:30 – 13:00	Session B / Sekcija B - Chair / Vodi Mitja Luštrek Keynote / Vabljeno predavanje: Ivan Bratko Qualitative learning for systems control <i>Qualitative modelling in AI is an approach to mathematical modelling with qualitative constraints, without the use of numbers. Simulation with a qualitative model can be done through qualitative reasoning, and the resulting qualitative behaviour is similar to a common sense description of the system's behaviour. Explainability is among useful features of qualitative modelling. This approach can also be used for learning to control dynamic systems: we learn a qualitative model from measured data, and then use this model for qualitative planning to generate a kind of outline for the system's control. This can be executed on the real system for example with so-called reactive execution. Experiments with classical control tasks show that this approach has at least two orders of magnitude better sample-efficiency than the popular approach with Reinforcement Learning.</i> Marko Bohanec, Martin Žnidaršič, Sandro Radovanović, Boris Delibašić Revisiting the Data-Driven Revision of DEX Models Matic Medvešek Challenges of Foundation Models for Physic Based Domains: Insights from the TURING Project
13:00 – 14:00	Lunch break / Odmor za kosilo
14:00 – 17:00	<u>Different loaction: E-lecture room, Teslova 30, first floor /</u> <u>Druga lokacija: E-predavalnica, Teslova 30, prvo nadstropje</u> <u>In-person only</u> Special session on Slovenian AI Factory (SLAIF) / Posebna sekcija o Slovenski tovarni umetne inteligence Gašper Slapničar, Amer Mujagić, Mitja Luštrek How to analyze PPG data with foundation models <i>The session will start with a short introduction on foundation models (FMs) for sensor data, which are large general-purpose models that can be adapted to various tasks. The most prominent example are in the fields of language (LLMs) and computer vision, but they are increasingly used for other types of sensor data. The main topic of the session will be a service developed for SLAIF that facilitates fine-tuning of FMs for sensor data. The service enables handling diverse data types, configuring fine-tuning workflows, and rigorous evaluation of the resulting task-specific models. The workflow configuration includes the FM backbones, frozen layers, predictive heads, basic hyperparameter optimisation and more. We will first thoroughly explain the features of the service. The session will then walk the participants through its operation on the toy example of fine-tuning a photoplethysmography FM for the task of estimating heart rate. They will be able to follow on their own laptops if desired. At the end we will discuss the interests of participants to guide future training events.</i>

SLOVENIAN CONFERENCE ON ARTIFICIAL INTELLIGENCE II.

SLOVENSKA KONFERENCA O UMETNI INTELIGENCI II.

Friday, 9th October 2026 / Petek, 9. oktober 2026

Great Lecture Hall / Velika predavalnica

Link for online attendance / Povezava za spletno udeležbo: <https://zoom.us/j/96713283195>

9:00 – 10:30	Session A / Sekcija A - Chair / Vodi Zoja Anžur Panel discussion / Okrogla miza: Olga Markič, Ivan Bratko, Marko Robnik Šikonja, Filip Dobranič Meje razumevanja: kako umetna inteligenca rešuje probleme? <i>Na okrogli mizi bomo raziskovali vlogo razumevanja pri reševanju problemov. Spraševali se bomo, ali je razumevanje za uspešno in varno delovanje umetne inteligence sploh potrebno ter kakšno vlogo imajo pri njem jezik, multimodalnost in izkušnja sveta. Razpravo bomo zaključili z vprašanjem, kako lahko umetna inteligenca pomaga pri reševanju kompleksnih problemov, ki poleg logičnega sklepanja vključujejo tudi človeške vrednote in zapleteno družbeno dinamiko.</i>
10:30 – 11:00	Break / Odmor
11:00 – 12:00	<u>Different loaction: Orange room / Druga lokacija: Oranžna soba</u> Session B / Sekcija B - Chair / Vodi Marko Bohanec Matevž Ogrinc, Vida Groznik, Barbara Koroušić Seljak, Biljana Mileva Boshkoska Clusters or Continuum? A Validated Protocol for Distinguishing Discrete Structure From Gradients in Multi-Omics Data Patrick Mertens, Anton Gradišek, Mitja Luštrek Mechanistic Prediction of Extracellular Vesicle Surface-Accessible Proteins from Whole Extracellular Vesicle Proteomics Matija Budja, Anton Gradišek, Andreja Jelen Machine Learning-Assisted Grain Segmentation on Scanning Electron Microscopy Images of High-Entropy Alloys Syed Muhammad Ali Abbas, Matjaž Gams, Sikandar Ali An Attention-Guided Web Framework for Whole-Slide Image Analysis with Foundation Models and Multiple-Instance Learning
12:00 – 13:00	Closing Ceremony of the entire Information Society conference / Zaključna svečana prireditve konference celotne konference Informacijska družba

13:00 – 14:00	Lunch break / Odmor za kosilo
14:00 – 16:00	Session C / Sekcija C - Chair / Vodi Branko Šter • Matej Guid Tihe predpostavke: temeljni koncepti za smiselno razpravo o nadzoru napredne umetne inteligence • Julija Stopar, Matjaž Gams Bias and Sycophancy in Large Language Models: Measuring Prompt-Induced Response Shifts • Matjaž Kumin, Žiga Kolar, Matjaž Gams Grouping Democracy Concepts through Consensus Clustering of Lexical and Semantic Representations • Kristo Kapshtica Analyst-Supervised Multi-Agent AI for Context-Aware Cyber Alert Triage • Nina Rechberger From Spectrum Data to Spectrum Decisions: An Agentic AI Approach for 6G Networks • Swarnendu Ghosh, Branko Šter Questioning Post-hoc Image Corruptions as a Proxy for Environmental Variation in Autonomous Driving • Swarnendu Ghosh, David Muhič, Branko Šter RocketSim: Benchmarking Reinforcement-Learning Hover Control of a Reusable Booster • Alberto Cecchi Predicting University Dropout from Pre-Enrollment Data: A Comparison of Interpretable Machine Learning Models Best paper award presentation / Podelitev nagrade za najboljši prispevek