

Conference Program

Thursday, December 26, 2024			
10:00 – 10:45	Opening Ceremony (Ceremonial Hall)		
10:45 – 11:45	Keynote Talk 1: Nataša Pržulj (Ceremonial Hall)		
11:45 – 12:00	Coffee Break (Hallway, 2 nd floor)		
	Ceremonial Hall	Room 102	Room 103
12:00 – 13:30	Parallel Sessions		
	ML1	NLP1	UKR
13:30 – 14:30	Lunch Break		
14:30 – 16:00	Parallel Sessions		
	NLP2	ML2	AIE
16:00 – 16:15	Coffee Break (Hallway, 1 st and 2 nd floor)		
16:15 – 17:45	Parallel Sessions		
	DM	CV	ML3
Friday, December 27, 2024			
10:45 – 11:45	Keynote Talk 2: Zoran Obradović (Ceremonial Hall)		
11:45 – 12:00	Coffee Break (Hallway, 2 nd floor)		
	Ceremonial Hall	Room 102	Room 103
12:00 – 13:30	Parallel Sessions		
	ML4	GAI1	PS
13:30 – 14:30	Lunch Break		
14:30 – 16:00	Parallel Sessions		
	KRR	ML5	GAI2
16:00 – 16:30	Closing Session		

Topics of Interest

AIE – AI and Ethics

CV – Computer Vision

DM – Decision Making

GAI1 – Generative AI 1

GAI2 – Generative AI 2

KRR – Knowledge Representation and Reasoning

ML1 – Machine Learning 1

ML2 – Machine Learning 2

ML3 - Machine Learning 3

ML4 – Machine Learning 4

ML5 - Machine Learning 5

NLP1 – Natural Language Processing 1

NLP2 – Natural Language Processing 2

PS - Problem Solving

UKR – Uncertain Knowledge and Reasoning

NOTE: The presentation time is limited to 20 minutes, including discussions. The Ceremonial Hall is located on the 2nd floor of the SASA building at Knez Mihailova 35. All other rooms are on the 1st floor.

Keynote Talks

Thursday, December 26, 2024

10:45 – 11:45 Ceremonial Hall

Chair: Dušan Teodorović

Nataša Pržulj

NEW AI METHODS FOR SIMPLIFYING MULTI-OMICS DATA ANALYSIS IN PRECISION MEDICINE

Friday, December 27, 2024

10:45 – 11:45 Ceremonial Hall

Chair: Miodrag Mihaljević

Zoran Obradović

CHARACTERIZING DISRUPTIVE EVENTS BY MODELING DYNAMICS IN MULTIPLEX NETWORKS

Parallel Sessions

Thursday, December 26, 2024

12:00 – 13:30 Ceremonial Hall

ML1 – Machine Learning 1

Chair: Sonja Dimitrijević

Goran Keković
STABILITY OF MACHINE LEARNING METHODS

Anđelka B. Kovačević, Vanja Dizdarević, Jovana Lazić, Isidora Jevremović
QUANTUM NEURAL PROCESSES FOR ASTROPHYSICAL SIGNAL DETECTION IN RED NOISE ENVIRONMENTS

Miroslav Ćirić, Jelena Ignjatović, Nada Damljanović
WEIGHTED AUTOMATA IN MACHINE LEARNING

12:00 – 13:30 Room 102

NLP1 – Natural Language Processing 1

Chair: Jelena Graovac

Mihailo Škorić, Saša Petalinkar
NEW XLM-R-BASED LANGUAGE MODELS FOR SERBIAN AND SERBO-CROATIAN

Julijana Kapor, Daria Varga, Danijela Milekić, Lidija Krstanović, Bojan Banjac
PHONEME RECOGNITION IN SPEECH THROUGH VIDEO ANALYSIS

Saša Petalinkar, Milica Ikonić Nešić, Ranka Stanković, Mihailo Škorić
COMPARISON OF ZERO AND FEW-SHOT LEARNING APPROACH USING THE LLMs FOR SENTIMENT ANALYSIS IN SERBIAN LITERATURE

Milica Ikonić Nešić, Saša Petalinkar, Ranka Stanković
DEVELOPMENT AND EVALUATION OF NAMED ENTITY LINKING MODELS FOR SERBIAN LANGUAGE WITH WIKIDATA INTEGRATION

12:00 – 13:30 Room 103

UKR – Uncertain knowledge and reasoning

Chair: Predrag Janičić

Marko Đorđević, Dušan Žigić, Igor Salom, Magdalena Đorđević
LEVERAGING HAMILTONIAN MONTE CARLO BAYESIAN INFERENCE AND MACHINE LEARNING TO UNDERSTAND CERN (LHC) RELATIVISTIC HEAVY ION COLLISION DATA

Milena P. Živković, Lazar D. Krstić, Marija I. Jolović, Filip G. Andrić, Tatjana B. Miladinović, Dragana Ž. Krstić, Mohamed E. A. Aichouche, Bogdan A. Pirković, Željko M. Cimaljević, Vladimir M. Marković
OPTIMIZING RADIOTHERAPY FOR SALIVARY GLAND TUMORS

Aleksandar Perović, Zoran Ognjanović, Tatjana Stojanović
USING ARCH- Ω -LOGIC IN NEURO-SYMBOLIC REASONING

Vanja Stepanović, Jesus Medina, Andreja Tepavčević
A LATTICE VALUED APPROACH TO APPROXIMATE SOLVING OF MATRIX EQUATIONS

14:30 – 16:00 Ceremonial Hall

NLP2 – Natural Language Processing 2

Chair: Anastazia Žunić

Ranka Stanković, David Lindemann, Olivera Kitanović
LINKING TEXT CORPORA TO LEXICOGRAPHICAL RESOURCES USING WIKIBASE AND ONTOLEX-LEMON

Pavle Pavlović
AI-DRIVEN AUTOMATED STORY GENERATION

Ana Toskić Cvetinović, Anđelka Zečević, Bojana Bašaragin, Goran Nenadić, Ranka Stanković
SHOULD LARGE LANGUAGE MODELS ATTEND PRIVACY TRAINING?

Dragica Ljubisavljević, Marko Koprivica
CHATGPT VS. HUMAN: WHOSE TEXT COMES WITH HIGHER ENTROPY?

14:30 – 16:00 Room 102

ML2 – Machine Learning 2

Chair: Jovana Kovačević

Minja Vuković, Nadica Miljković

ONSET DETECTION IN ELECTROMYOGRAPHY SIGNALS USING LONG SHORT-TERM MEMORY NEURAL NETWORK

Sonja D. Radenković, Darko B. Vuković, Ivana Simeunović, Vyacheslav Zinovev, Milan Radovanović
PREDICTIVE PATTERNS AND MARKET EFFICIENCY: A DEEP LEARNING METHOD FOR FINANCIAL TIME SERIES FORECASTING

Miloš Kovacević, Marko Pešović, Zoran Petrović, Zoran Pucanović
TRANSFORMERS AND TOKENIZATION: A NOVEL APPROACH TO PREDICTING IN-GAME PURCHASES

Vladimir Vincan, Ognjen Kundačina, Dragiša Mišković
BIDIRECTIONAL MAMBA ARCHITECTURE FOR SLEEP AROUSAL DETECTION

14:30 – 16:00 Room 103

AIE – AI and Ethics

Chair: Miljana Milojević

Smiljana Antonijević Ubois

INTEGRATING PUBLIC VALUES THROUGH PARTICIPATORY AI DEVELOPMENT

Bojan Jović

DIGITAL WRITINGS: AI IN SCIENCE FICTION – LITERATURE BY AI

Vukašin Stanojević

HUMANITY AND THE FUTURE OF AI: UTOPIA OR DYSTOPIA

Pavle Subotić

STATICALLY DETECTING DATA LEAKAGES IN DATA SCIENCE CODE

16:15 – 17:45 Ceremonial Hall

DM – Decision Making

Chair: Mirjana Ivanović

Maja Laković, Nenad Stojanović, Ljubica Djurović

DECISION-MAKING ALGORITHMS BASED ON INTERVAL-VALUED HESITANT FUZZY SOFT SETS AND THEIR LIMITATIONS

Sonja Predin, Richard Göbel

AGENT BASED MODELLING FOR SUSTAINABLE PUBLIC TRANSPORT PLANNING

16:15 – 17:45 Room 102

CV – Computer Vision

Chair: Bojana Bašaragin

Andjelija Ž. Ilić, Jelena Trajković, Jelena Sribljanović, Neda Bauman, Olivera Lijeskić, Đorđe Zlatković and Tijana Štajner

ESTIMATION OF TOXOPLASMA GONDII BRAIN CYST SIZE AND LOCATION BASED ON FRACTAL AND TEXTURAL PARAMETERS

Vladimir Ilić, Jelena Ivetić, Silvia Ghilezan, Nenad Barišić

SHAPE DESCRIPTORS FOR AI-DRIVEN CLASSIFICATION OF BREAST TUMOR CELL MORPHOLOGY

Vukašin Stanojević, Branimir Todorović

MULTIPLE OBJECT TRACKING WITH ADAPTIVE KALMAN FILTER

Vladimir Ilić, Nebojsa Ralević, Jelena Ivetić, Ljubo Nedović

FROM FUZZY SHAPES TO ACCURATE RECOGNITION: A NEW APPROACH IN COMPUTER VISION

16:15 – 17:45 Room 103

ML3 – Machine Learning 3

Chair: Dragan Đurić

Milan Čugurović, Milena Vujošević Janičić

GRAALSP PROFILES LOGGER: A TOOL FOR ANALYZING AND INTERPRETING PREDICTIONS OF THE ML-BASED STATIC PROFILERS

Saša Misailović

PROGRAMMING SYSTEMS FOR SAFE AND EFFICIENT USE OF LARGE LANGUAGE MODELS (LLMS)

Miloš Jolović, Talib Tahirović, Zorica Bogdanović, Marijana Despotović-Zrakić

USING FEDERATED LEARNING TO ADDRESS PRIVACY CONCERNS IN E-LEARNING RECOMMENDATION SYSTEMS

Nevena Mijajlović, Miodrag J. Mihaljević

AN OPTIMIZATION OF THE BLOCKCHAIN POOL MINING FOR RELIABLE DISTRIBUTED MACHINE LEARNING

Friday, December 27, 2024

12:00 – 13:30 Ceremonial Hall

ML4 – Machine Learning 4

Chair: Danijela Milošević

Goran Isić, Uroš Ralević, Borislav Vasić

DEEP LEARNING ASSISTED DETERMINATION OF TWO-DIMENSIONAL CRYSTAL THICKNESS USING ATOMIC FORCE MICROSCOPY

Đorđe D. Jovanović

BOTNET DETECTION USING TIME SERIES DATA AND BOOSTING ALGORITHMS

Mirko Dinulović, Marta Trninić

ALGORITHMIC INSIGHTS: ENHANCING MACHINE LEARNING APPLICATIONS IN ORTHOTROPIC PLATE STABILITY ANALYSIS

Stefan Panić, Milan Dejanović, Danijel Došić

ENHANCING WIRELESS CHANNEL PREDICTIONS WITH AI: A NOVEL H-M SHADOWED MODEL FOR ESTIMATING CHANNEL CAPACITY AND FADING CHARACTERISTICS

12:00 – 13:30 Room 102

GAI1 – Generative AI 1

Chair: Ranka Stanković

Miloš Košprdić, Bojana Bašaragin, Adela Ljajić, Darija Medvečki, Nikola Milošević

RELIABLE ANSWERS IN BIOMEDICINE: A RETRIEVAL-AUGMENTED GENERATION AND VERIFICATION APPROACH WITH VERIFAI

Halida Karišik, Aldina Avdić, Ulfeta Marovac

UPGRADING THE ALZHEIMER'S DISEASE PREDICTION MODEL USING GENERATIVE ARTIFICIAL INTELLIGENCE

Milica Simić, Tamara Naumović, Petar Lukovac, Dušan Kostić, Dušan Barać

APPLICATION OF GENERATIVE AI TOOLS IN SOFTWARE DEVELOPMENT

Slavica Todorović Zarkula, Branimir Todorović, Ivan Stefanović, Milan Stojanović

CONDITIONAL GENERATIVE ADVERSARIAL NETWORKS IN MAGNETIC RESONANCE IMAGE-TO-IMAGE TRANSLATIONS

12:00 – 13:30 Room 103

PS – Problem Solving

Chair: Tatjana Davidović

Aleksandar Peulic

CONCEPT OF A CONFIGURABLE ASIC FOR SENSOR DATA ACQUISITION WITH MACHINE LEARNING INTEGRATION

Ana Mijović, Slobodan Jelić, Raka Jovanović, Tatjana Davidović, Dragan Urošević

LOCAL SEARCH BASED HEURISTICS FOR CLUSTER-WISE LINEAR REGRESSION PROBLEM WITH ELASTIC-NET PENALTY

Dragutin Ostojić, Christine Zarges, Tatjana Davidović, Dušan Ramljak

POLYNOMIAL REGRESSION MODEL FOR STANDARDIZING LARGE PRECISION INSTANCES FOR P||C_{MAX} PROBLEM

Radoš Jojić, Natalija Randelović, Iva Šuša, Milan Todorović, Dušan Ramljak, Dragutin Ostojić, Tatjana Davidović

BALANCING EFFICIENCY AND FAIRNESS IN BLOCKCHAIN: A PROOF-OF-USEFUL-WORK-BASED BLOCKCHAIN CONSENSUS PROTOCOL

14:30 – 16:00 Ceremonial Hall

KRR – Knowledge Representation and Reasoning

Chair: Vladan Devedžić

Anđela Rodić, Marko Tumbas, Jane Kondev, Magdalena Đorđević, Marko Đorđević
IDENTIFYING KEY PARAMETERS FOR RAPID CRISPR-CAS DEREPRESSION USING COMPUTATIONAL AND MACHINE LEARNING TECHNIQUES

Miloš Simić, Miloš Stanković, Zorica Stanimirović, Srđan Stanković
CONSTRAINING THE CRITICAL ERROR RATE IN BINARY CLASSIFICATION

Predrag Stanimirović
FUZZY REASONING IN NONLINEAR OPTIMIZATION AND ZEROING NEURAL NETWORKS

Jelena Marković, Predrag Janičić
RECONSTRUCTION OF AXIOM SYSTEM UNDERLYING DEDUCTIVE DATABASE METHOD

14:30 – 16:00 Room 102

ML5 – Machine Learning 5

Chair: Tatjana Davidović

Nemanja Vučićević

OPTIMIZING FINITE SUM OBJECTIVES IN MACHINE LEARNING WITH AN EXTRA-GRADIENT APPROACH

Marina Popović Krneta, Dragana Šobic Šaranović, Ljiljana Mijatović Teodorović, Zoran Bukumirić, Tatjana Stanojković, Ivana Pašić, Jadranka Antić, Miljana Tanić

A SUPERVISED MACHINE LEARNING APPROACH TO PREDICT EARLY TREATMENT RESPONSE IN PATIENTS WITH PAPILLARY THYROID CARCINOMA: PRELIMINARY FINDINGS

Nemanja Vučićević, Nenad Stojanović

DECISION MAKING ALGORITHMS IN NEUTROSOPHIC SOFT ENVIRONMENTS

14:30 – 16:00 Room 103

GAI2 – Generative AI 2

Chair: Andreja Tepavčević

Dorđe Žikelić

FORMAL VERIFICATION AND CERTIFIABLE LEARNING OF QUANTIZED NEURAL NETWORKS

Vladimir Pavlović, Nataša Milosavljević, Olivera J. Bogunović, Bogdan Novaković

INNOVATIVE EDUCATIONAL MODELS FOR HUMAN CENTERED AI

Ana Kovačević

THE DARK SIDE OF GENERATIVE ARTIFICIAL INTELLIGENCE: ABUSE AND VULNERABILITIES