

SoftCOM 2024

PRELIMINARY PROGRAM

TECHNICAL PROGRAM: GENERAL CONFERENCE

Thursday, September 26, 9:00 - 10:30 (HVAR)

S1/I: MACHINE LEARNING APPLICATIONS I

Chair: Tamara Grujić (University of Split, Croatia)

Application of GANs in the analysis and generation of marine debris images

Antonela Prnjak, Ana Kuzmanić Skelin and Tamara Grujić (University of Split, Croatia); Saša Mladenović (University of Split & Faculty of Science, Croatia)

Machine learning and dynamic time warping for online signature verification

Mohammad Saleem (Budapest University of Technology and Economics, Hungary)

Comparative Analysis of Wildfire Segmentation Using Satellite Images of Different Spectral Bands Downloaded from the Copernicus Sentinel and Nimbo Earth Platforms

Ana Šarić Gudelj (FESB & University of Split, Croatia); Vladan Papic (University of Split, Croatia)

Automating Diploma Title Generation: Applying Machine Learning Techniques

Alba Merdani (Polytechnic University of Tirana, Albania); Nelda Kote (Polytechnic University of Tirana & Faculty of Information Technology, Albania); Kleda Ternova (Polytechnic University of Tirana & Star7, Albania); Enida Sheme (Polytechnic University of Tirana & Faculty of Information Technology, Albania)

Towards Energy-efficient Data Collection in Internet of Ships

Jelena Culic Gambiroza and Mirko Čorić (University of Split, Croatia); Mario Cagalj (University of Split, FESB, Croatia)

Thursday, September 26, 11:00 - 12:30 (HVAR)

S1/II: MACHINE LEARNING APPLICATIONS II

Chair: Jelena Culic Gambiroza (University of Split, Croatia)

Gymir5G: A Simulation Platform to Study Data Transmission over WebRTC in 5G Networks with Deep Learning Assistance

Nikita Smirnov (Kiel University, Germany); Sven Tomforde (University of Kiel, Germany)

Traffic Matrix Estimation Using Invertible Neural Networks

Grigorios Kakkavas (National Technical University of Athens (NTUA) & Institute of Communication and Computer Systems (ICCS), Greece); Petros Maratos (National Technical University of Athens, Greece); Vasileios Karyotis (Ionian University & NETMODE Lab, NTUA, Greece); Symeon Papavassiliou (National Technical University of Athens, Greece)

Automated Data Correlation for IoT Anomaly Detection with B5G Networks

Vikramajeet Khatri and Mehrnoosh Monshizadeh (Nokia Bell Labs, Finland); Sina Hojjatinia (Aalto University, France & Nokia, Finland); Siwar Kriaa (Nokia Bell Labs, France); Petri Mähönen (Aalto University, Finland)

Comparative Machine Learning Analysis of PM2.5 and PM10 Forecasting in Albania

Alba Merdani (Polytechnic University of Tirana, Albania)

Employing Feature Engineering for River Stage Forecasting to Improve Hybrid Model Performance

Anna Maria Mihel (University of Rijeka, Croatia); Špela Pečnik and Grega Vrbančič (University of Maribor, Slovenia); Jonatan Lerga (University of Rijeka, Croatia & University of Rijeka, Center for Artificial Intelligence and Cybersecurity, Croatia); Nino Krvavica (University of Rijeka, Croatia)

Comparison of signal pre-processing and Machine Learning modelling for water-leak detection using vibration and pressure data

Luisiana Sabbatini and Marco Esposito (Università Politecnica Delle Marche, Italy); Alberto Belli and Paola Pierleoni (Università Politecnica delle Marche, Italy)

Thursday, September 26, 09:00 - 10:30

(KORČULA)

S2: SIGNAL AND DATA PROCESSING

Chair: Joško Radić (University of Split, Croatia)

Advancing Quantum Communications: Q-OFDM with Quantum Fourier Transforms for Enhanced Signal Integrity

Abdulbasit M. A. Sabaawi and Mohammed Almasaoodi (Budapest University of Technology and Economics (BME), Hungary); Sándor Imre (Technical University of Budapest, Hungary)

Adaptive Compressive Sensing Image Recovery Using Block-Variance-Based Sampling

Dorđe Stanković (University of Montenegro, Montenegro); Anđela Draganic (University of Montenegro, Faculty of Electrical Engineering, Montenegro); Cornel Ioana (Grenoble Institute of Technology, France); Irena Orović (University of Montenegro, Montenegro)

Custom-Designed Signal Processing Application for RFSoc FPGA Platform

Gergo Kovacs (Technical University of Cluj-Napoca & INCDTIM, Cluj-Napoca, Romania); Raluca Nelega (Technical University of Cluj-Napoca, Romania & INCDTIM, Romania); Alexandru Oprea (Technical University of Cluj-Napoca & INCDTIM Cluj-Napoca, Romania); Radu Voina (Technical University of Cluj-Napoca, Romania & Keytek Innovation, Romania); Romulus Valeriu Flaviu Turcu (Babes-Bolyai University, Romania); Emanuel Puschita (Technical University of Cluj-Napoca, Romania & National

Institute for Research and Development of Isotopic and Molecular Technologies (INCDTIM), Romania)

Classification of Power-Grid Signal Transients based on Matched Filters and Graph Signal Processing

Isidora Stankovic (University of Montenegro, Montenegro); Angela Digulescu (Military Technical Academy, Romania); Corneli Ioana (Institute National Polytechnique de Grenoble, France); Milos Brajovic (University of Montenegro, Montenegro)

SyncNet: Harmonizing Nodes for Efficient Learning

Abhinav Roy (IIIT NR, India); Bhavesh S Gyanchandani (IIITNR, India); Jyoti Sahu (IIIT NR, India); Mallikharjuna Rao K (IIIT Naya Raipur, India)

Efficient Data Processing Pipelines for Mobility Data Using MongoDB

Camelia Florina Andor (Babes-Bolyai University, Romania); Vlad Alexe and Norbert Petrovici (Babes-Bolyai University of Cluj-Napoca, Romania)

Thursday, September 26, 11:00 - 12:30 (KORČULA)

S3: 5G&B5G TECHNOLOGIES

Chair: Milijenko Mikuc (University of Zagreb, Croatia)

Cell Stay Time Characteristics Exploration in Beyond 5G Small Cells

Miroslav Voznak (VSB - Technical University of Ostrava, Czech Republic); Khoa Nguyen Dang Dinh (Technical University of Ostrava, Czech Republic); Erik Chromy (Pan-European University, Slovakia)

Out of Distribution Generalization: KPI vs Spectrogram Based Jamming Classification in 5G

Ronald Chitauru (IHP Microelectronics, Germany); Marcin Brzozowski (IHP, Germany); Onur Yener (IHP-Leibniz-Institut Fur Innovative Mikroelektronik, Germany); Peter Langendoerfer (IHP Microelectronics, Germany)

Integrating Open-Source VoNR in 5G SA Private Networks: An Experimental Evaluation

Elena-Ramona Modroiu (Technische Universität Berlin, Germany); Joyce Mwangama (University of Cape Town, South Africa); Marius Corici (Fraunhofer FOKUS, Germany); Thomas Magedanz (Fraunhofer Institute FOKUS / TU Berlin, Germany)

End-To-End Network Flow Path Calculation in Beyond 5G Multi-Tenant Infrastructures

Angel M Gama Garcia (University of the West of Scotland & Universidad de Alicante, United Kingdom (Great Britain)); Pablo Benlloch-Caballero (University of West Scotland, United Kingdom (Great Britain)); Qi Wang (University of the West of Scotland, United Kingdom (Great Britain)); Higinio Mora (University of Alicante, Spain); Jose Maria Alcaraz Calero (University of the West of Scotland & School of Engineering and Computing, United Kingdom (Great Britain))

Fusing Reconfigurable Intelligent Surfaces with 6G Non-Terrestrial Networks

Muhammad Shoab Ayub (Universidad de Santiago, Chile); Pablo Adasme (University of Santiago de Chile, Chile); Demostenes Zegarra Rodriguez (Federal University of Lavras & Nokia Technology Institute, Brazil); Renata Lopes Rosa (Universidade Federal de Lavras, Brazil); Muhammad Iqbal and JenYi Pan (National Chung Cheng University, Taiwan); Thokozani Calvin Shongwe (University of Johannesburg, South Africa)

Survey on the Impact of AI, Robotics and 6G Networks on the Remote Surgery

Noor Abdalkarem Mohammedali (Al-Mustaqbal University, Iraq); Triantafyllos Kanakis and Michael Opopu Agyeman (University of Northampton, United Kingdom (Great Britain))

Friday, September 27, 09:00 - 10:30 (VIS)

S4: WIRELESS COMMUNICATIONS

Chair: Joško Radić (University of Split, Croatia)

Enhancing Handover Performance in LEO Satellite Networks with Multi-Connectivity and Conditional Handover Approach

Mohammed Al-Ansi and Jorge Querol (University of Luxembourg, Luxembourg); Madyan Alsenwi (SnT, Luxembourg); Eva Lagunas and Symeon Chatzinotas (University of Luxembourg, Luxembourg)

ConSUMO: simulation based tool to evaluate mobile traffic impact on cell towers load

Gabriel Panini (University of Modena and Reggio Emilia, Italy); Francesco Faenza (PostDoc Researcher, Italy & University of Modena and Reggio Emilia, Italy); Claudia Canali and Riccardo Lancellotti (University of Modena and Reggio Emilia, Italy)

RAG-Aided Approach to Network Experimentation: Case of Wireless Environment Channel Capacity Analysis under Fading and Co-Channel Interference Conditions with Beaulieu-Xie Distribution

Dragana Krstić (University of Niš, Serbia); Suad Suljovic (Academy of Technical Professional Studies Belgrade, Serbia); Nenad Petrovic (University of Nis, Faculty of Electronic Engineering, Serbia); Miodrag Brklicje (Tehpro doo, Belgrade, Serbia); Zoran Popovic (Technical College of Vocational Studies, Zvečan, Serbia)

Guard-Trace Utilization for Performance Enhancement of 5G MIMO Antenna

Trasma Yunita and Zulfi Zulfi (Telkom University, Indonesia); Achmad Munir (Institut Teknologi Bandung, Indonesia)

Robust DNN-Enabled Cooperative Spectrum Sensing

Omar Serghini and Salvatore Serrano (University of Messina, Italy); Hayat SEMLALI (Université Cadi Ayyad, Morocco); Asmaa Maali (Laboratory of

Electrical Systems and Telecommunications, Cadi Ayyad University, Morocco)

UWB Channel Impulse Response Alignment Techniques for Accurate Indoor Radio Sensing
Teodora Kocevska, Martin Murko and Aleš Simončič (Jožef Stefan Institute, Slovenia); Grega Morano (Jozef Stefan Institute, Slovenia); Tomaž Javornik (Jožef Stefan Institute, Slovenia & Jožef Stefan International Postgraduate School, Slovenia); Bostjan Batagelj (University of Ljubljana, Slovenia); Andrej Hrovat (Jožef Stefan Institute, Slovenia)

Friday, September 27, 09:00 – 10:30 (HVAR)

S5: OPTICAL COMMUNICATIONS

Chair: Joao Pedro (Infinera & Instituto de Telecomunicações, Portugal)

AI and ML Applications Traffic: Designing Challenges for Performance Optimization of Optical Data Center Networks

Peristera A. Baziana (University of Thessaly, Greece); Georgios Drainakis (Institute of Communication and Computer Systems, Greece); David Georgantas (University of Thessaly, Greece); Adonis Bogris (University of West Attica, Greece)

Launch Power Control for Digital Subcarrier Equalization in Filterless Optical Networks

Mohammad Hosseini (Infinera, Germany); Joao Pedro (Infinera & Instituto de Telecomunicações, Portugal); Antonio Napoli (Infinera, Germany)

On the Performance of the UAV-based Multi-Source FSO Communications

Wafaa Mohammed Ridha Shakir (Al-Furat Al-Awsat Technical University, Iraq); Zainab Qasim Abdulazeez (Al-Furat Al-Awsat Technical University & Engineering Technical College-Najaf, Iraq)

Thursday, September 26, 14:00 - 15:30 (KORČULA)

S6: SOFTWARE DEVELOPMENT

Chair: Linda Vicković (University of Split, Croatia)

Insights into the Applications of Bayesian Networks in Software Engineering

Thiago Rique (IFPB, Brazil); Emanuel Dantas (VIRTUS, Brazil); Mirko Perkusich (VIRTUS-UFCG, Brazil); Kyler Costa Gorgônio (Federal University of Campina Grande, Brazil); Hyggo Almeida (UFCG, Brazil); Angelo Perkusich (Federal University of Campina Grande, Brazil)

Framework for Integrating Threat Modeling into a DevOps Pipeline for Enhanced Software Development

Lyuben Nikolov and Adelina P. Aleksieva-Petrova (Technical University of Sofia, Bulgaria)

A Cloud-Based Software Architecture for a Course Recommender System

Anna Draganova (Sofia University, Bulgaria); Adelina P. Aleksieva-Petrova (Technical University

of Sofia, Bulgaria); Milen Petrov (Sofia University, Bulgaria)

Friday, September 27, 16:30 - 18:00 (KORČULA)
S7: HEALTHCARE APPLICATIONS

Chair: Priyanka Verma (University of Limerick, Ireland)

Growth Plate Area Segmentation on Knee MRIs

Ana Pinjuh (University of Mostar, Bosnia and Herzegovina); Linda Vickovic (University of Split, Croatia); Sven Gotovac (University of Split & FESB, Croatia); Dunja Božić Stulić (University of Split, Croatia)

Advancing Healthcare 5.0 through Federated Learning: Opportunity for Security Enforcement using Blockchain

Ugochukwu Okwudili Matthew, Sr (Federal University of Lavras, Brazil & Hussaini Adamu Federal Polytechnic, Nigeria); Renata Lopes Rosa (Federal University of Lavras, Brazil); Demostenes Zegarra Rodriguez (UFLA, Brazil); Pablo Adasme (University of Santiago de Chile, Chile); Muhammad Shoab Ayub (Universidad de Santiago, Chile)

Transfer Learning in Building Neural Network Model Case Study

Marija Zorić (Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, Croatia); Maja Stula (University of Split, Croatia); Ivan Markić (University of Mostar, Faculty of Mechanical Engineering, Computing and Electrical Engineering); Maja Braović (University of Split - FESB, Croatia)

Revolutionizing Human Activity Recognition in Healthcare: Harnessing Red Deer for Feature Selection and Focal Loss-Based MLP for Classification

Nitesh Bharot and John G. Breslin (University of Galway, Ireland); Priyanka Verma (University of Limerick, Ireland)

Thursday, September 26, 14:00 - 15:30 (HVAR)

S8: VEHICULAR AND ASSISTIVE ML APPLICATIONS

Chair: Gordan Ježić (University of Zagreb, Croatia)

Algorithm for activating the alarm system when leaving the vehicle

Marija Ovžetski (TTTech Auto, Croatia); Mario Vranjes (University of Osijek, Croatia); Ratko Grbić (University of Osijek, Faculty of Electrical Engineering, Croatia); Denis Vranješ (Computer Science and Information Technology Osije, Croatia)

Driver Information System based on Computer Vision

Mihovil Kovačević (TTTech Auto, Croatia); Mario Vranjes (University of Osijek, Croatia); Ratko Grbić (University of Osijek, Faculty of Electrical Engineering, Croatia); Marijan Herceg (FERIT, Croatia)

Creating a surround view algorithm with implementation on a real embedded ADAS platform

Ivan Marinić (TTTech Auto, Croatia); Mario Vranjes (University of Osijek, Croatia); Ratko Grbić (University of Osijek, Faculty of Electrical Engineering, Croatia); Marijan Herceg (FERIT, Croatia)

Predictive Modeling of Autonomous Vehicle Behavior with Imbalanced & Mixed Data

Celine Serbouh (CNAM, France & UTAC, France); Iness Ahriz (CNAM, France); Ndeye Niang Keita (Cnam, France); Alain Piperno (UTAC, France)

Towards an Efficient Navigation Solution for Visually Impaired Individuals: Concepts and Constraints

Iness Ahriz (CNAM, France); Wafa Njima (Institut Supérieur d'Electronique de Paris, France); Lounis Zeriuol (Conservatoire Nation Des Arts et Metiers, France); Samuel Garcia (CNAM, France); Maria Camila Molina (Conservatoire National des Arts et Métiers & N-Vibe, France); Charlie Galle (N-Vibe,

France); Dany Merhej (CNAM, Lebanon); Lina Mroueh (Institut Supérieur d'Electronique de Paris, France); Michel Terré (CNAM, France)

**Friday, September 27, 16:30 - 18:00
(HALL ADRIATIC)**

PAS1: POSTERS / ABSTRACTS SESSION

Chair: Josip Lorincz (University of Split, Croatia)

Determination of the Impact of Video Encoding Parameters on QoE Using Passive Viewing Tests

Dominik Arih, Ilija Barišić and Mirko Suznjevic (University of Zagreb, Croatia)

Introducing Secure Element Token with USB Wi-Fi Bluetooth Triple Communication Interfaces

Pascal Urien (Telecom Paris, France)

SPECIAL SESSIONS

SS1/I: SPECIAL SESSION ON NEXT GENERATION WIRED AND WIRELESS NETWORKS I

Saturday, September 28, 09:00 - 10:30 (KORCULA)

SS1/I: Special Session on Next Generation Wired and Wireless Networks I

Chair: Janusz Henryk Klink (Wroclaw University of Science and Technology, Poland)

GWO-based user clustering and power allocation for downlink MIMO-NOMA systems

Samar Chebbi (Université de Limoges, France); Oussama Habachi (University of Limoges, France); Essaid Sabir (TELUQ University & University of Quebec, Canada); Jean Pierre Cances and Vahid Meghdadi (University of Limoges, France)

Federated SFC Placement in Sliced Collaborative Multi-Administrative Multi-Domain Networks

Dariusz Nogalski (Military Communication Institute - National Research Institute, Poland); Dallal Belabed and Alexandre Triollet (Airbus Defence and Space, France); Konstanty Junosza-Szaniawski (Warsaw University of Technology, Poland); Slim Abdellatif (CNRS/LAAS & Université de Toulouse, INSA, LAAS, France); Pascal Berthou (CNRS/LAAS - Université de Toulouse, France); Stanislas Pedebearn (LAAS CNRS, France); Adam Dudko (Military Communication Institute - National Research Institute, Poland)

Anycast Metrics and Performance Tuning

Jan Marius Evang (Oslo Metropolitan University & Simula Metropolitan Center for Digital Engineering, Norway); Tarik Cicic (Simula Metropolitan Centre for Digital Engineering, Norway); Alojz Gomola (Simula Metropolitan Center for Digital Engineering, Norway)

The Use of Machine Learning in Modeling Video Quality Assessment

Janusz Henryk Klink and Michał Łuczyciński (Wroclaw University of Science and Technology, Poland); Tadeus Uhl (Flensburg University of Applied Sciences, Germany)

Real-Time Video Streaming in MPT-GRE Multipath Networks

Jan Marius Evang (Oslo Metropolitan University & Naseer Al-Imareen (Szechenyi Istvan University, Hungary); Gábor Lencse (Széchenyi István University, Hungary)

SS1/II: SPECIAL SESSION ON NEXT GENERATION WIRED AND WIRELESS NETWORKS II

Saturday, September 28, 11:00 - 12:30 (KORCULA)

SS1/II: Special Session on Next Generation Wired and Wireless Networks II

Chair: Janusz Henryk Klink (Wroclaw University of Science and Technology, Poland)

Augmented Reality Interface Quality of Experience Assessment Using Video Game Simulation

Katarina Mišura and Mirko Suznjevic (University of Zagreb, Croatia)

Advancing Neural Audio Codexes: Integrating Psychoacoustic Models for Enhanced Audio Quality

Adilson Torres (UFLA, Brazil); Renata Lopes Rosa (Universidade Federal de Lavras, Brazil); Demostenes Zegarra Rodriguez (Federal University of Lavras & Nokia Technology Institute, Brazil); Muhammad Saadi (University of Central Punjab Lahore, Pakistan)

Real-time Millimeter Wave Wireless Mesh Network Emulation

Kari Seppänen (VTT Technical Research Centre of Finland, Finland)

SS2: SPECIAL SESSION ON AD HOC&SENSOR NETWORKS AND INTERNET OF THINGS

Friday, September 27, 14:30 - 16:00 (VIS)

SS2: Special Session on Ad Hoc&Sensor Networks and Internet of Things

Chair: Mario Kušek (University of Zagreb, Croatia)

ML Classification of BLE Packets Using Restrained Receiver QoS Metrics

Morgane Joly (Université Gustave Eiffel & NXP, France); Eric Renault (LIGM, Université Gustave Eiffel, CNRS, ESIEE Paris, France); Fabian Riviere (NXP Semiconductors, France)

The Potential of Computational Intelligence to Extend the Lifespan of Internet of Things Power-Limited Sensor Networks

Khalid A. Darabkh and Muna R. Al-Akhras (The University of Jordan, Jordan)

Adaptive Resource Management in Software-Defined Networks for IoT Ecosystems

Ugochukwu Okwudili Matthew, Sr (Federal University of Lavras, Brazil & Hussaini Adamu Federal Polytechnic, Nigeria); Muhammad Shoab Ayub (Universidad de Santiago, Chile); Pablo Adasme (University of Santiago de Chile, Chile); Renata Lopes Rosa (Universidade Federal de Lavras, Brazil); Demostenes Zegarra Rodriguez (Federal University of Lavras & Nokia Technology Institute, Brazil); Muhammad Saadi (University of Central Punjab Lahore, Pakistan); Frederico G Guimaraes (Universidade Federal de Minas Gerais, Brazil)

Automated Validation of Spatial Data

João Victor Teófilo Salgado (UFLA, Brazil); Demostenes Zegarra Rodriguez (Federal University of Lavras & Nokia Technology Institute, Brazil); Vinicius Victor Dias (UFLA, Brazil); Renata Lopes Rosa (Universidade Federal de Lavras, Brazil)

Context-aware Communication in C-ITS for Road Safety Applications: Survey and Open Research Directions

Ameni Tchourou (Universite Paris Cite, France); Mohamed Hadded (Abu Dhabi University, United Arab Emirates); Hakim Ghazzai (King Abdullah University of Science and Technology, Saudi Arabia); Mourad Elhadeif (Abu Dhabi University, United Arab Emirates)

SS3/I: SPECIAL SESSION ON SECURITY AND DIGITAL FORENSICS I

Thursday, September 26, 9:00 - 10:30 (VIS)

SS3/I: Special Session on Security and Digital Forensics I

Chair: Toni Perković (University of Split, Croatia)

An Efficient Decentralized Fine-grained Access Control for IoT Ecosystems over NDN

Ferhat Mecerhed (Université Polytechnique Hauts-de-France, France & University of Lübeck, Germany); Imine Youcef (Univ Polytechnique Hauts-De-France LAMIH CNRS, France); Antoine Gallais (Univ Polytechnique Hauts-De-France LAMIH CNRS & INSA Hauts-De-France, France); Stefan Fischer and Mohamed Ahmed Mohamed Hail (University of Lübeck, Germany)

Deploying Testbed Docker-based application for Encryption as a Service in Kubernetes

Amir Javadpour (University of Oulu, Finland); Forough Jaafari (Sharif University of Technology, Iran); Tarik Taleb (Ruhr University Bochum, Germany); Chafika Benzaid (University of Oulu, Finland & University of Sciences and Technology Houari Boumediene (USTHB), Algeria); Luis Rosa (OneSource, Portugal); Pedro Tomás (OneSource & University of Coimbra, Portugal); Luis Cordeiro (OneSource, Portugal)

Heuristic Malware Detection Method Based on Structured CTI Data: A Research Study and Proposal

Pavel Novak (Masaryk University, Czech Republic); Vaclav Ujezsky (Masaryk University, Czech Republic & Brno University of Technology, Czech Republic)

A Multi-Agent Architecture for Privacy-Preserving Natural Language Interaction with FHIR-Based Electronic Health Records

Carmen De Maio (Università degli Studi di Salerno, Italy); Giuseppe Fenza, Domenico Furno, Teodoro Grauso and Vincenzo Loia (University of Salerno, Italy)

Network Traffic Intrusion Detection

Martina Antonic and Frane Zada (University of Zagreb, Croatia)

SS3/II: SPECIAL SESSION ON SECURITY AND DIGITAL FORENSICS II

Thursday, September 26, 11:00 - 12:30 (VIS)

SS3/II: Special Session on Security and Digital Forensics II

Chair: Toni Perković (University of Split, Croatia) Probing with a Generic MAC Address: An Alternative to MAC Address Randomisation

Johanna Ansohn McDougall (University of Hamburg, Germany); Alessandro Brighente (University of Padova, Italy); Hannes Federrath, Niklas Zapatka, Anne Kunstmann and Hanna Schambach (University of Hamburg, Germany)

Anonymization-based method for privacy-preservation of users in Internet services

Dardan Maraj (University of Zagreb, Kosovo); Marin Vukovic (University of Zagreb Faculty of Electrical Engineering and Computing, Croatia)

Enhanced 5G Device-to-Device (D2D) Security in Spectrum Sharing System

Ayat M. Alrjoob (German-Jordanian University, Jordan); Ahmad Ababneh and Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Khalid A. Darabkh (The University of Jordan, Jordan)

Securing Primary Users in IoT 5G Cognitive Radio Networks

Ayat M. Alrjoob (German-Jordanian University, Jordan); Ahmad Ababneh and Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Khalid A. Darabkh (The University of Jordan, Jordan)

SS3/III: SPECIAL SESSION ON SECURITY AND DIGITAL FORENSICS III

Thursday, September 26, 14:00 - 15:30 (VIS)

SS3/III: Special Session on Security and Digital Forensics III

Chair: Miljenko Mikuc (University of Zagreb, Croatia)

Recent Trends and Open Issues in Cyber Security for Online Platforms

Hiba Akli (University of Angers, France & Esaip Engineering School, France); Karim Zkik (CERADE, France); Stephane Igor (University of Angers, France); Sofiane Hamrioui (ESAIP School, France); Pascal Lorenz (University of Haute Alsace, France)

AI/ML-Enhanced Security Monitoring for 5G-Enabled Big Data Sensor Networks

Stefania Efigênia Iza da Silva (UFLA, Brazil); Renata Lopes Rosa (Federal University of Lavras, Brazil); Demostenes Zegarra Rodriguez (UFLA, Brazil); Pablo Adasme (University of Santiago de Chile, Chile); Muhammad Saadi (University of Central Punjab Lahore, Pakistan)

A Digital Watermark Architecture for Image Authentication Based on Hermite Transform

Andjela Draganic (University of Montenegro, Faculty of Electrical Engineering, Montenegro); Đorđe Stanković and Nedeljko Lekić (University of Montenegro, Montenegro); Cornel Ioana (Grenoble

Institute of Technology, France); Irena Orović (University of Montenegro, Montenegro)

A Methodology for Risk Management of Generative AI based Systems

Raimir Holanda and Daniel Colares (University of Fortaleza, Brazil)

SS4: SPECIAL SESSION ON GREEN NETWORKING AND COMPUTING

Friday, September 27, 14:30 – 16:00 (KORČULA)

SS4: Special Session on Green Networking and Computing

Chair: Josip Lorincz (University of Split, Croatia)

Sensor Multiplexing in Linux Containers

Peter Barth (University of Applied Sciences Mannheim & University of Applied Sciences, Germany); Raphael Barth (Titum GmbH, Germany)

Comparison of Multi-Criteria Decision-Making Algorithms for Spectral and Energy Efficiency Trade-off in Massive MIMO Systems

Eni Haxhiraj and Elson Agastra (Polytechnic University of Tirana, Albania); Desar Shahu (Polytechnic University of Tirana & Faculty of Information Technology, Albania)

Power Savings of Device-to-Device (D2D) Communication System Using Several Bands 5G Underlying Cellular Networks

Razan A. Shatnawi, Mahmoud A. Khodeir and Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Khalid A. Darabkh (The University of Jordan, Jordan)

Smart Street Lighting for Enhancing Energy Efficiency in Urban Environments

Vismja Krizanovic (University of Osijek, Croatia); Ana Pejkovic (Josipa Kozarca 51, Croatia); Patrik Pracny (University of Osijek, Croatia)

SYM2/I: SYMPOSIUM ON ENVIRONMENTAL ELECTROMAGNETIC COMPATIBILITY (EEMC) I

Saturday, September 28, 09:00 - 10:30 (HVAR)

SYM2/I: Symposium on Environmental Electromagnetic Compatibility (EEMC) I

Chair: Dragan Poljak (University of Split, Croatia)

Combined EFIE-EFIE Formulation for PEC and Penetrable Object: Study of Reduced Planar Model Exposed to Dipole Antenna Radiation

Mario Cvetković and Dragan Poljak (University of Split, Croatia)

A New Look to the Maxwell's Equations and Wave Equations in Conducting Media

Slavko Vujević (University of Split, Croatia)

Analytical Approach to the Assessment of the Step Voltage at the Surface Above the Horizontal

Grounding Electrode

Dragan Poljak and Vicko Doric (University of Split, FESB, Croatia); Ljubomir Hrboka (CARNET, Croatia)

Feasibility of Embroidered Body Worn Antenna as EM Sensor for Radiated Emissions Measurement

Muhammad Naufal Arira (Bandung Institute of Technology, Indonesia); Agus D. Prasetyo (Telkom University, Indonesia & Institut Teknologi Bandung, Indonesia); Jamal Zaid (303 Terry Fox Drive, Canada & R&D, Huawei technologies, Canada); Yohandri Yohandri (Universitas Negeri Padang, Indonesia); Muhammad Fauzan Edy Purnomo (Brawijaya University, Indonesia); Achmad Munir (Institut Teknologi Bandung, Indonesia)

Stochastic Analysis in MIMO and Passive Antenna Electric Field Calculation

Marin Galić (Centar za Mjerjenja u Okolisu, Croatia); Anna Šušnjara (University of Split & FESB, Croatia); Dragan Poljak (University of Split, Croatia)

A Note on the Use of Hybrid Numerical Method Approach in Dosimetry for Exposure to mmWaves

Maja Škiljo (University of Split, Croatia); Anna Šušnjara (University of Split & FESB, Croatia); Dragan Poljak (University of Split, FESB, Croatia)

SYM2/II: SYMPOSIUM ON ENVIRONMENTAL ELECTROMAGNETIC COMPATIBILITY (EEMC) II

Saturday, September 28, 11:00 - 12:30 (HVAR)

SYM2/II: Symposium on Environmental Electromagnetic Compatibility (EEMC) II

Chair: Dragan Poljak (University of Split, Croatia)

Time Domain Study of Wireless Power Transfer Between Coupled Dipoles Above a Half-Space

Dragan Poljak and Sinisa Antonijevic (University of Split, Croatia)

A Multidisciplinary View to the Human Exposure to Electromagnetic Fields - A Note on Multiphysics, Engineering, Biochemical and Legal Aspects

Dragan Poljak (University of Split, Croatia); Ivana Carev (Faculty of Chemistry and Technology, Croatia); Zorica Novaković Šesnić (HOPS, Croatia)

SS6/I: SPECIAL SESSION ON ROBOTICS AND ICT ASSISTED WELLBEING I

Friday, September 27, 14:30 - 16:00 (HVAR)

SS6/I: Special Session on Robotics and ICT Assisted Wellbeing I

Chair: Vladan Papić (University of Split, Croatia)

Furhat PsychScreen Framework: Streamlining Robot-Assisted Psychological Screening Implementation

Anna Leko va and Paulina Tsvetkova (Bulgarian Academy of Sciences, Bulgaria); Mayiana Mitevksa and Teodora Medneva (University of Plovdiv, Bulgaria)

Time to Hire a Robot Psychologist? Evaluating a Corporate RAG Application

Gian Paolo Jesi and Andrea Odorizzi (Lepida ScpA, Italy); Gianluca Mazzini (LepidaSpA & UniFe, Italy)

Validating the OpenBCI Nodes within the Node-RED Library through an EEG-based BCI Application for IoT

Adelina Kremenska and Anna Lekova (Bulgarian Academy of Sciences, Bulgaria); Georgi Dimitrov (University of Library Studies and Information Technologies & ULSIT, Bulgaria)

Individual Plant Detection on Post-Harvest Forest Floor Using Aerial Imagery

Aashish Raviraj, Maximilian Johenneken, Ahmad Drak, Alexander Asteroth and Sebastian Houben (Bonn-Rhein-Sieg University of Applied Sciences, Germany)

+8Unraveling the Potential of AI Towards Digital and Green Transformation in Kiwifruit Farming

Theofanis Kalampokas (Democritus University of Thrace, Greece); Eleni Vrochidou (International Hellenic University, Greece); Maria Tzampazaki and George A Papakostas (Democritus University of Thrace, Greece)

SS6/II: SPECIAL SESSION ON ROBOTICS AND ICT ASSISTED WELLBEING II

Saturday, September 28, 09:00 – 10:30 (VIS)

SS6/II: Special Session on Robotics and ICT Assisted Wellbeing II

Chair: Vladan Papić (University of Split, Croatia)

Application development in AutoCAD environment for modeling 3D printed souvenirs targeting STEAM education

Ivan Chavdarov (Bulgarian Academy of Sciences, Bulgaria & St Kliment Ohridski, Bulgaria); Borislava Kostova and Galya Tsaneva (Bulgarian Academy of Science, Bulgaria)

3D Printed DELTA Robot for Educational Purposes

Ivan Chavdarov (Bulgarian Academy of Sciences, Bulgaria & St Kliment Ohridski, Bulgaria); Kaloyan M Yovchev (Sofia University, Bulgaria); Bozhidar Naydenov (Dassault Systemes & Institut of Robotics, Bulgarian Academy of Sciences, Bulgaria); Vladislav Vladislavov Hrosinkov (Sofia University, Bulgaria)

Social Robots in Education: To Select or Not to Select a Robot for a Teaching Subject at an Educational Level?

Maria Tzampazaki (Democritus University of Thrace, Greece); Eleni Vrochidou (International Hellenic University, Greece); George A Papakostas (Democritus University of Thrace, Greece)

Integrating creativity in a STEAM physics lesson by using 3D Printing and a humanoid robot Nao

Borislava Kostova (Bulgarian Academy of Science, Bulgaria); Ivan Chavdarov (Bulgarian Academy of Sciences, Bulgaria & St Kliment Ohridski, Bulgaria); Galya Tsaneva (Bulgarian Academy of Science, Bulgaria); Snezhana Kostova (Bulgarian Academy of Sciences Sofia, Bulgaria); Aleksandar Krastev (Institut of Robotics, Bulgarian Academy of Sciences, Bulgaria)

SS7: SPECIAL SESSION ON ADVANCED EDUCATIONAL TECHNOLOGIES

Friday, September 27, 16:30 – 18:00

(VIS)

SS7: Special Session on Advanced Educational Technologies

Chair: Ani Grubišić (University of Split, Croatia)

Predictive Modeling of Student Performance in Moodle LMS using Learning Analytics

Mia Mužinić, Antonela Sikavica, Petra Zelić, Ani Grubisic and Ines Šarić-Grgić (University of Split, Croatia)

Assessing Interaction Mechanics in Extended Reality for Control Engineering Applications

Armin Remenyi and Saleh Ragheb Saleh Alsaleh (Tallinn University of Technology, Estonia); Aleksei Tepljakov (Tallinn University of Technology & R8 Technologies OÜ, Estonia)

Analysis of the Gamification Aspects of Digital Educational Tools Using Gamification Classification

Ana Vrcelj Bozic (University of Rijeka & Civil Engineering Technical School in Rijeka, Croatia); Natasa Hoic-Bozic, Martina Holenko Dlab and Kristijan Stančin (University of Rijeka, Croatia); Tomislav Jagušt (University of Zagreb, Croatia)

Automatically Generated Practice in the Classroom: Exploring Performance and Impact Across Courses

Rachel Van Campenhout (VitalSource, USA); Benny G Johnson (VitalSource Technologies, USA); Michelle Clark (VitalSource, USA); Melissa Deininger (Iowa State University, USA); Shannon Harper, Kelly Odenweller and Erin Wilgenbusch (Iowa State University, Croatia)

Supporting Academic Teaching with Integrating AI in Learning Management Systems: Introducing a Toolchain for Students and Lecturers

Birgit Pohn (University of Applied Sciences
Technikum Wien & Medical University Graz,
Austria); Lars Mehnen (Technikum Wien, Austria)

PROFESSIONAL PROGRAM

Friday, September 27, 09:00 - 10:30 (ŠOLTA)

WICT: Workshop on Information and Communication Technologies

Chair: Matko Šarić (University of Split, Croatia)

Centralized Enhancement of Security and Service Delivery

Elisa Benetti (LepidaScpA, Italy); Alessandro Rabiti (Lepida ScpA, Italy); Gianluca Mazzini (LepidaSpA & UniFe, Italy)

RIMAP - Advanced NLP-Based Matchmaking and Reporting Platform

Damir Medved (University of Rijeka & Innerga, Croatia); Benedikt Perak (University of Rijeka, Croatia)

Technical Aspects of Procuring Availability Services for Photovoltaic Plants

Damir Medved (University of Rijeka & Innerga, Croatia); Damir Juričić (Innerga Ltd., Croatia)

SynchEduca: A Web-Based Environment for Simulating Java Synchronization Concepts

Miroslav Popovic (Brightlightness.com, Croatia); Robert Idlbek and Kristian Dokic (Josip Juraj Strossmayer University of Osijek, Croatia)

Using the YOLOv8 model for Fire and Smoke Detection: Precision Analysis in Mediteranean Olive grooves

Martin Josipović (FESB, Croatia); Ana Kuzmanić Skelin and Mirjana Bonkovic (Faculty of Electrical Engineering, Croatia)

Friday, September 27, 16:30 - 18:00

(HALL ADRIATIC)

PDS1: Posters/Demos Session

Chair: Josip Lorincz (University of Split, Croatia)

Challenges and Opportunities of Artificial Intelligence in Medical Education: Recommendations for Better Integration in Pre-clinic Curricula

Birgit Pohn (University of Applied Sciences Technikum Wien & Medical University Graz, Austria); Lars Mehnen (Technikum Wien, Austria); Ralf Braun and Sepideh Hatamikia (Danube Private University, Austria)

TIMETABLE A: TECHNICAL PROGRAM, SYMPOSIA

Thursday, September 26 (Bluesun Hotel Elaphusa)

Time/Hall	HVAR	KORČULA	VIS
08:00-09:00	REGISTRATION		
09:00-10:30	S1/I: Machine Learning Applications I	S2: Signal and Data Processing	SS3/I: Special Session on Security and Digital Forensics I
10:30-11:00	Coffee Break		
11:00-12:30	S1/II: Machine Learning Applications II	S3: 5G & B5G Technologies	SS3/II: Special Session on Security and Digital Forensics II
12:30-14:00	Lunch		
14:00-15:30	S8: Vehicular and Assistive ML Applications	S6: Software Development	SS3/III: Special Session on Security and Digital Forensics III
15:30-16:00	Coffee Break		

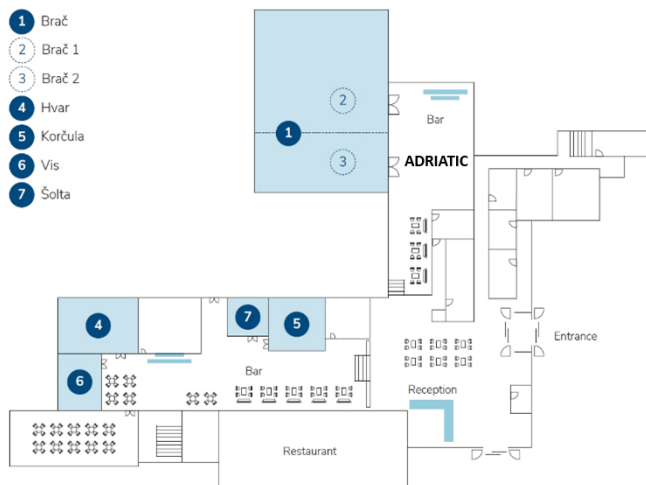
Friday, September 27 (Bluesun Hotel Elaphusa)

Time/Hall	HVAR	KORČULA	VIS
08:00-09:00	REGISTRATION		
09:00-10:30	S5: Optical Communications	SS4: Special Session on Green Networking and Computing Keynote Speech: Marcos Katz	S4: Wireless Communications
10:30-11:00	Coffee Break		
11:00-12:30	Keynote Speech: Srdjan Capkun: Sovereign Smartphone: Revisiting Smartphone Security Architecture (BRAČ)		
12:30-14:30	Conference Luncheon		
14:30-16:00	SS6/I: Special Session on Robotics and ICT Assisted Wellbeing I	SS4: Special Session on Green Networking and Computing	SS2: Special Session on Ad Hoc&Sensor Networks and Internet of Things
16:00-16:30	Coffee Break		
16:30-18:00	SYM1: Symposium on Information Security and Intellectual Property (ISIP)	S7: Healthcare Applications	SS7: Special Session on Advanced Educational Technologies
	PAS1: Posters/Abstracts Session, PDS1: Posters/Demos Session (Hall ADRIATIC)		
18:00-	Social program		

Saturday, September 28 (Bluesun Hotel Elaphusa)

Time/Hall	HVAR	KORČULA	VIS
09:00-10:30	SYM2/I: Symposium on Environmental Electromagnetic Compatibility (EEMC) I	SS1/I: Special Session on Next Generation Wired and Wireless Networks II	SS6/II: Special Session on Robotics and ICT Assisted Wellbeing II
10:30-11:00	Coffee Break		
11:00-12:30	SYM2/II: Symposium on Environmental Electromagnetic Compatibility (EEMC) II (HVAR)	SS1/II: Special Session on Next Generation Wired and Wireless Networks II (KORČULA)	
13:00-	Conference trip		

FLOOR PLAN OF BLUESUN HOTEL ELAPHUSA AND GENERAL INFORMATION



ABOUT

The 32nd International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2024) will be held on September 26-28 in Split – Bol (island of Brač), Croatia.

ELECTRONIC PROCEEDINGS

Electronic Proceedings and Final Program will be available at the conference website.

LANGUAGE

The Conference language is English.

SECRETARY

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