|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **ISORC 2025 Technical Program Schedule** | |
|  |  | **DAY 1: MAY 26, 2025** | |
| **08:00** | **08:30** | **Welcome Desk** | |
| **08:30** | **08:40** | **Opening Ceremony** | |
| **Networking, IoT & Edge Scheduling (Session chair: Daniel Casini)** | | | |
| **08:40** | **08:55** | Time-Aware Packet Forwarding in Programmable Data Planes | Yuqun Song, Monowar Hasan |
| **08:55** | **09:10** | Optimization of Micromobility Integration in IoV Systems | Rima Boughariou, Hend Marouane, Mohamed Mosbah, Hassene Mnif, Amel Meddeb-Makhlouf |
| **09:10** | **09:25** | Cost- and Latency-Aware Scheduling for Microservices in Edge Computing | Amira Rayane Benamer |
| **09:25** | **09:40** | Evaluating Federated Learning in IoT: Advancing Scalability, Privacy, and  Real-Time Intelligence | Karim Houidi, Marwa Said, Akram Hakiri, Nedra Mellouli, Hella Kaffel Ben Ayed |
| **09:40** | **10:00** | **Coffee Break** | |
| **Machine Learning Performance & TinyML – (Session chair: Robert Pettit)** | | | |
| **10:00** | **10:15** | Impact of Network Data Complexity on ML Performance | Mustafa Al Lail, Alexis Huante, Mariem Belhor |
| **10:15** | **10:30** | Real-Time Performance Benchmarking of TinyML Models in Embedded Systems (PICO: Performance of Inference, CPU, and Operations) | Abhishek Dey, Saurabh Srivastava, Gaurav Singh, Robert Pettit |
| **10:30** | **10:45** | Hardware in the Loop Evaluation on Autonomous Underwater Vehicles using an Edge Device | Joseph Hite, Nagabhushan Mahadevan, Daniel Stojcsics, Sandeep Neema, Gabor Karsai |
| **10:45** | **11:00** | Real-Time Detection of Bitstream Vulnerabilities in FPGAs | Mansour Alqarni, Akramul Azim |
| **11:00** | **11:30** | Optimizing CNN Inference on Multicore Scratchpad Architectures | Giuseppe Lipari, Chiara Daini, Houssameddine Zahaf, Pierre-Emmanuel Hladik |  |
| **11:30** | **12:30** | **Keynote Session : Prof. Frédéric Boniol**  **Modular and Open-Hardware Architectures for Embedded Processors: Emerging Trends and Research Challenges** | |
|  |
| **12:30** | **14:00** | **Lunch break** | |  |
| **Embedded Systems, Security & Smart Architectures (Session chair: Al Lail, Mustafa)** | | | |  |
| **14:00** | **14:15** | Optimizing Stack Cache Usage Through Local Variable Promotion | Emad Jacob Maroun, Daniel Seifert, Johannes Gernedl |  |
| **14:15** | **14:30** | A Secure, Context-Aware Software Architecture for Real-Time IoT | Marshal Moncivais, Mustafa Al Lail |  |
| **14:30** | **14:45** | Bio-Inspired Coordination for Measurement Timing in Sensor Networks | Takashi Ikegami, Ichiro Satoh |  |
| **14:45** | **15:00** | Make Your Bench Testbed Driving: A Hybrid Testbed for Automated Driving Development and Testing | Yuanbin Zhou, Anthony Kee Teck Yeo, Sudipta Chattopadhyay |  |
| **15:00** | **15:15** | A Data-Driven Platform for Visualizing and Analyzing Public Transit Schedule Deviations | Emna Boudabbous, Mohamed Karaa, Lokman Sboui, Julio Montecinos, Omar Alam |  |
| **Poster/Demo Presentations (Session chair: Nedra Mellouli)** | | | |  |
| **15:15** | **15:20** | Distributed Consensus for Uncertainty in Medical Diagnosis | Alexandru Robert Vlasiu |  |
| **15:20** | **15:25** | TECS/Rust-OE: Optimizing Exclusive Control in Rust-based Component | Nao Yoshimura, Hiroshi Oyama, Takuya Azumi |  |
| **15:25** | **15:30** | TSN evaluation toolchain enabling Efficient and Reliable Network Design | Christophe Fradet, Philippe Veyssière |  |
| **15:30** | **15:35** | Towards Rule-based Defense Mechanisms in Distributed UAV-Swarms | Philipp Homann, Jonas Diegelmann, Uwe Brinkschulte |  |
| **15:35** | **15:40** | Organic Computing-Driven Vehicles in a Reproducible Test Setup for CARLA Simulator | Timo Kisselbach, Kevin Scherer, Uwe Brinkschulte |  |
| **15:40** | **15:45** | ADNA-based Organic Computing Battery Management System | Joshua Leon Tobias, Timo Kisselbach, Uwe Brinkschulte |  |
| **15:45** | **16:30** | **Coffee Break + Poster/Demo Exhibition** | |  |
| **Doctoral Symposium and Dissertation Digest (Session chair : Pascal Berthou)** | | | |  |
| **16:30** | **16:45** | A Survey on TDoA-based localization schemes for Long Range Wide Area Networks | Feras Hamdan, Nicola Accettura, Pascal Berthou |  |
| **16:45** | **17:00** | Time Synchronization and Packet Scheduling for Satellite LoRaWAN Networks | Mohammad Afhamisis, Maria Rita Palattella |  |
| **17:00** | **17:15** | Ubiquitous IoT Through Space Communications | Zheng Zhou, Nicola Accettura, Pascal Berthou |  |
| **17:15** | **17:30** | Designing Scalable yet Energy-Efficient Low-Power Wide-Area Networks | Laurent Chasserat, Nicola Accettura, Pascal Berthou |  |
| **17:30** | **17:45** | Optimized Deep Learning for Anomalous Traffic Classification in Resource-Constrained IoT Networks: A Novel Approach | Yayathi Pavan Kumar S, Sudeepta Mishra |  |
| **17:45** | **18:00** | Optimized Constant Execution Time Code | Emad Jacob Maroun, Martin Schoeberl, Peter Puschner |  |
| **18:00** | **18:15** | Time-predictable Deep Noise Suppression on an Edge Device | Alessandro Cerioli, Tórur Biskopstø Strøm, Clément Laroche, Tobias Piechowiak, Luca Pezzarossa, Martin Schoeberl |  |
| **18:15** | **18:30** | Bringing Model-Based Systems Engineering to Diagnostics of Cyber-Physical Systems | Ömer Sayilir! |  |
| **20:30** | **00:00** | **Social Event - Gala Dinner**  **Unforgettable evening & Entertainment in perspective** | |  |
|  | | | |  |
| **DAY 2: MAY 27, 2025** | | | |  |
| **08:00** | **08:30** | **Welcome Desk** | |  |
| **Session 1: Scheduling and Real-Time Systems (Session Chair: Mariem Belhor)** | | | |  |  |
| **08:30** | **09:00** | Global versus local schedulability analysis of a two-level hierarchical system | Luc Descharmes, Henri Bauer, Frederic Ridouard, Annie Choquet-Geniet |  |
| **09:00** | **09:30** | Energy-aware Resource reservation for Multicore architectures | François Illien, Houssam eddine Zahaf, Audrey Queudet |  |
| **09:30** | **10:00** | Decreasing Utilization of Systems with Multi-Rate Cause-Effect Chains While Reducing End-to-End Latencies | Luiz Maia, Gerhard Fohler |  |
| **10:00** | **10:30** | Supporting Soft Real-Time Tasks in Zephyr with Constant Bandwidth Servers | Alexander Paschoaletto, Paulo Baltarejo Sousa, Luis Miguel Pinho, Tiago Carvalho |  |
| **10:30** | **11:00** | **Coffee break** | |  |
| **11:00** | **12:00** | **Keynote Distinguished Prof. Gabor Karsai**  **New Directions in Software-Integrated Systems: Assurance of Learning-Enabled Cyber-Physical Systems** | |  |
| **Session 2: Security and Mixed-Criticality (Session chair : Pascal Berthou)** | | | |  |
| **12:00** | **12:30** | A Safety-Critical Object Controller with Inherited Trust | Clemens Tiedt, Katja Assaf, Andreas Polze, Robert Schmid, Lukas Pirl |  |
| **12:30** | **13:30** | **Lunch break** | |  |
| **13:30** | **14:00** | User-Centric and Privacy-Preserving Attribute-Based Authentication in Healthcare Systems Leveraging zk-SNARKs and Soulbound Tokens | Biagio Boi, Franco Cirillo, Marco De Santis, Christian Esposito |  |
| **14:00** | **14:30** | Mad Monk: Arbitrary Criticality Escalation in Mixed Criticality Real-Time Systems | Mitchell Duncan, Ao Li, Nathan Fisher, Ning Zhang, Ryan Gerdes, Tanmaya Mishra, Thidapat (Tam) Chantem |  |
| **14:30** | **15:00** | MemGuard-RW: Improved Real-Time Memory Bandwidth Regulation within a Hypervisor | Everaldo Gomes, Adrien Jakubiak, Giovani Gracioli, Tomasz Kloda |  |
| **15:00** | **15:30** | **Coffee break** | |  |
| **15:30** | **18:30** | **Airbus Final Manufacturing Plant** | |  |
| **19:00** | **23:00** | **Gala Dinner (19:00-23:00)** | |  |
|  | | | |  |
| **DAY 3: MAY 28, 2025** | | | |  |
| **08:00** | **08:30** | **Welcome Desk** | |  |
| **Session 4: Middleware, IoT, & CPS (Session chair: Claire Pagetti)** | | | |  |
| **08:30** | **09:00** | FEDS: An Intuitive Model-Driven Middleware for Automated Orchestration and Resource Configuration Across Federated Testbeds | Sanjana Das, Ruiqing Lan, Caroline Rinks, Aniruddha Gokhale, Abdelilah Essiari, Xi Yang, Paul Ruth |  |
| **09:00** | **09:30** | An unsupervised anomaly-based detection system for microservices applications on Kubernetes | Kostandinos Myrtollari, Charalampos Andreou, Kakia Panagidi, Stathes Hadjiefthymiades |  |
| **09:30** | **10:00** | Energetic SmartData: a Data-driven Power Management Approach for Cyber-Physical Systems | Antônio Augusto Fröhlich, Leonardo Passig Horstmann, Jozimar Xavier |  |
| **10:00** | **10:30** | ROS 2 Agnocast: Supporting Unsized Message Types for True Zero-Copy Publish/Subscribe IPC | Takahiro Ishikawa-Aso, Shinpei Kato |  |
| **10:30** | **11:00** | **Coffee break** | |  |
| **Session 5: Network, Architecture, and Emulation (Session chair: Ahlem Mifdaoui)** | | | |  |
| **11:00** | **11:30** | Towards a validated core memory model through (MP)SoC events | Alfonso Mascarenas Gonzalez, Frédéric Boniol, Benjamin Lesage, Claire Pagetti |  |
| **11:30** | **12:00** | Mobility in 5G Emulators: Implementation and Evaluation | Massamaesso Narouwa, Léo Mendiboure, Sassi Maaloul, Ndeye Birame DIA, Hakim Badis, Dereje M. Molla, Marion Berbineau, Rami Langar |  |
| **12:00** | **12:30** | Experimental Evaluation of a CAN-to-TSN Gateway Implementation | Aldin Berisa, Saad Mubeen, Mohammad Ashjaei, Masoud Daneshtalab, Mikael Sjodin, Benjamin Kraljusic, Nejla Zahirovic |  |
| **12:30** | **13:30** | **Lunch break** | |  |
| **Session 6: TSN and Network Optimization (Session chair: Uwe Brinkschulte)** | | | |  |
| **13:30** | **14:00** | A Cost-efficient Credit-Based Shaper Deployment Framework for Time-Sensitive Networks | Santiago Torres-Borda, Ahlem Mifdaoui |  |
| **14:00** | **14:30** | Efficient Placement Optimization of LoRaWAN Gateways Using K-Means Clustering | Marwa Said, Maher Jabberi, Akram Hakiri, Karim Houidi, Nedra Mellouli-Nauwynck, Hella Kaffel Ben Ayed |  |
| **14:30** | **15:00** | Integrating VMD and Convolutional Transformers for Optimized Solar Energy Management in IoT Monitoring Systems | Abdellah Benbelghit, Ahmed Bali, Abdelouahed Gherbi, Pierre-Emmanuel Hladik |  |
| **15:00** | **15:30** | Simulating Contention and Timeout Caches for a Mixed-Criticality 5G Radio Base Station | Emad Jacob Maroun, Martin Schoeberl |  |
| **15:30** | **16:00** | **Coffee Break** | |  |
| **Session 7: Edge Computing (Session chair: Thierry Gayraud)** | | | |  |
| **16:00** | **16:30** | Deep Reinforcement Learning-based Multi-Agent Framework for Dynamic Optimization of QoS in IoT Services | Fatima Zohra Bemrah, Samir Ouchani, Azeddine Chikh |  |
| **16:30** | **17:00** | HIL robustness testing and validation of computer vision and C-ITS for vehicle fault mitigation | Andrea Marchetta, Marcello Cinque, Angelo Coppola, Martina Togna |  |
| **17:00** | **17:30** | Energy-Efficient Real-Time Localization for Distributed IoT Sensing: Novel CNN-based Models | Maher Jabberi, Bassem Sellami, Akram Hakiri, Mohamed Adel Alimi |  |
| **17:30** | **18:00** | A Meta-heuristic Real-time Task Graph Scheduler for Partially Occupied Edge Computing Platforms | Adity Ghosh, Arnab Sarkar, Arijit Mondal |  |