

PROGRAM GUIDE



AINA-2025

The 39th International Conference on
Advanced Information Networking and Applications



Technically Supported by:



Fukuoka Institute of Technology, Japan



Open University of Catalonia, Spain

Hybrid Conference

Open University of Catalonia, Barcelona, Spain

April 9 - April 11, 2025

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Welcome Message from AINA-2025 Organizers

Welcome to the 39th International Conference on Advanced Information Networking and Applications (AINA-2025). On behalf of AINA-2025 Organizing Committee, we would like to express to all participants our cordial welcome and high respect.

AINA is an International Forum, where scientists and researchers from academia and industry working in various scientific and technical areas of networking and distributed computing systems can demonstrate new ideas and solutions in distributed computing systems. AINA is a very open society and is always welcoming international volunteers from any country and any area in the world.

AINA International Conference is a forum for sharing ideas and research work in the emerging areas of information networking and their applications. The area of advanced networking has grown rapidly, and the applications have experienced explosive growth especially in areas of pervasive and mobile applications, wireless sensor and ad-hoc networks, vehicular networks, multimedia computing, social networking, semantic collaborative systems, as well as IoT, Big Data, Cloud Computing, Artificial Intelligence and Machine Learning. This advanced networking revolution is transforming the way people live, work, and interact with each other, and is impacting the way business, education, entertainment, and health care are operating. The papers included in the proceedings cover theory, design and application of computer networks, distributed computing and information systems.

Each year AINA receives a lot of paper submissions from all around the world. It has maintained high quality accepted papers and is aspiring to be one of the main international conferences on Information Networking in the world.

We are very proud and honored to have three distinguished keynote talks by Prof. Cecilio Angulo, Technical University of Catalonia (UPC), Barcelona, Spain, Prof. Javier Lopez, Department, University of Malaga, Spain and Prof. Farookh Khadeer Hussain, University of Technology Sydney, Australia, who will present their recent work and will give new insights and ideas to the conference participants.

An international conference of this size requires the support and help of many people. A lot of people have helped and worked hard to produce a successful AINA-2025 technical program and conference proceedings. First, we would like to thank all authors for submitting their papers. We are indebted to Program Track Co-chairs, Program Committee Members and Reviewers, who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to thank AINA-2025 General Co-chairs, PC Co-chairs, and Workshops Organizers for their great efforts to make AINA-2025 a very successful event. We have special thanks to Finance Chair and Web Administrator Co-chairs.

We do hope that you will enjoy the conference proceedings and readings.

AINA-2025 Keynote Talk I

Prof. Cecilio Angulo, Technical University of Barcelona, Barcelona, Spain

Cognitive Assistants Supporting Human-Robot Networks Collaboration in Human Cyber Physical Systems

Abstract: We are living a new sociotechnical era of collaborative, human-centred, distributed work in networks of humanrobot teams in the smart factory. This new scenario, generically defined as human cyber physical systems, requires specific methods and techniques to analyse and develop cognitive assistance systems supporting and taking care of the Operator 5.0. Computer networks, distributed computing, and cognitive information systems are key research areas for the design and development principles of cognitive assistants in the smart factory, their application domains, and associated challenges. This keynote focuses on the current state-of-the-art of standards, platforms, and solutions, as well as new trends in assistance systems that support collaborative robotics and IoT technologies. This talk will provide attendants with a comprehensive overview of how cognitive assistants can be designed and work in human-robot networked teams.

AINA-2025 Keynote Talk II



Prof. Javier Lopez, University of Malaga, Malaga, Spain

Standardization Efforts for Digital Twins: An Analysis from The Security Side

Abstract: Digital Twins (DTs) and their potential application to business in general, and industrial scenarios in particular, are increasingly attracting the attention of many companies and, hence, the scientific community. DTs are demonstrating its high value in predicting failures, spotting abnormal situations and thus improving industrial and manufacturing domains while providing real-time services. However, full deployment of DTs in a secure and consistent way relies much on the standardization efforts from international bodies and industrial associations. In this talk, we analyze the actual situation, presenting what has been approached so far and what is still lacking.

AINA-2025 Keynote Talk III



Prof. Farookh Khadeer Hussain, University of Technology Sydney, Sydney, Australia

Blockchain and Smart Contracts for Sustainability: Case Study of Carbon Credits and Biochar

Abstract: Carbon credits represent an international mechanism through which governments and organizations can offset their carbon (CO₂) emissions. Although the carbon market faces numerous challenges, one of the primary concerns for carbon credit purchasers is the reliability of credit quality. The quality of a carbon credit generally pertains to the capacity to unequivocally demonstrate that it has achieved its intended objectives of carbon abatement. Low-quality carbon credits, by extension, facilitate greenwashing and consequently offer negligible, if any, contribution to atmospheric carbon reduction. To address this critical issue, we propose a blockchain- and smart contract-based approach for ensuring the provenance of biochar carbon credits, specifically those derived from large-scale industrial hemp cultivation. Industrial hemp not only serves as an efficient CO₂ sequester but also provides feedstock for the production of biochar. The biochar processed from hemp can sequester CO₂ reliably for up to one hundred years. Within our proposed framework, establishing provenance for biochar carbon credits is a multifaceted procedure encompassing multiple phases from seed selection and planting to the germination and harvesting of hemp plants. This approach aggregates relevant documentary evidence of hemp growth from a variety of sources and secures this information in a blockchain. Such evidence is then linked to the carbon credits generated by the CO₂ sequestered within the processed industrial hemp. Smart contracts regulate the orchestration of all activities within each phase, including seed selection and harvesting. In addition, a data-driven, overarching master orchestrator coordinates all related processes to ensure the authenticity and traceability of carbon credits.



AINA-2025 Main Conference and Workshops Program

Wednesday, 9 April, 2025

AINA-2025 Keynote I

09:00-10:00 (UTC+2) CEST Time Zone (Barcelona, Spain))

AINA-2025 Keynote Talk I

Prof. Cecilio Angulo: Technical University of Barcelona, Barcelona, Spain

Coffee Break

10:00-10:30 (UTC+2) CEST Time Zone (Barcelona, Spain)

Parallel Sessions

10:30-12:30 (UTC+2) CEST Time Zone (Barcelona, Spain)

AINA-S1: Intelligent Computing and Machine Learning I

Session Chair: Ashutosh Bhatia, Birla Institute of Technology and Science, Pilani, India

1. Enhancing Search Strategies for Maximum Independent Set with Grey Wolf Optimization-Genetic Algorithm
Ritika Verma, Dharmendra Prasad Mahato
 2. Exploring NLP Techniques for Code Smell Detection: A Comparative Study
Djamel Mesbah, Nour El Madhoun, Khaldoun Al Agha, Hani Chalouati
 3. DP-FedELM: Differentially Private Federated Extreme Learning Machine
Ono Hajime, Tran Thi Phuong, Le Trieu Phong
 4. TrPrNet: Early Parkinson Detection Network Using Marker-less Gait Analysis
Vikas Kumawat, Yashvardhan Sharma, Ashutosh Bhatia, Kamlesh Tiwari
 5. Arabic Sentiment Analysis Leveraging Hybrid Word Embeddings with Deep Learning Techniques
Abdulrahman Alharbi, Nabin Sharma, Farookh Khadeer Hussain
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AINA-S2: Security and Privacy I**Session Chair: Masakatsu Nishigaki, Shizuoka University, Japan**

1. High-Precision Network Intrusion Detection Method based on NIDS-CNNRF
JiaMing Wang, Kai Yang, Wei Cong, MinJing Li, Wang Xu An
2. MIDPS: A Multi-agent host Intrusion Detection and Prevention System
Saad El Jaouhari, Andrei Vavilov, Julia Soloveva, Alexandru Archip, Nour El Madhoun
3. Multi-Critic Deep Reinforcement Learning for Enhanced Alert Prioritization in Intrusion Detection Systems
Lalitha Chavali, Paresh Saxena
4. BERT-Powered Malware Detection with Potential Regional and Contextual Features
Rama Krishna Koppanati, Sateesh Kumar Peddoju, Mansi Yadav
5. Do Regularly Personalized Security Messages Cause Habituation?
Ayane Sano, Yukiko Sawaya, Takamasa Isohara, Vanessa Bracamonte, Masakatsu Nishigaki

AINA-S3: Next Generation Mobile and Wireless Networks I**Session Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. A Comparison Study of UNDX and SPX Crossover Methods for Two-Islands Mesh Clients Distribution Considering LDIWM and LDVM Router Replacement Methods
Paboth Kraikritayakul, Admir Barolli, Yusuke Irie, Phudit Ampririt, Shinji Sakamoto, Leonard Barolli
2. Stable Satellite Selection Method Using Orbital Prediction in Low-Earth-Orbit Satellite Networks
Keita Kashiwagi, Kazuya Tsukamoto
3. Edge-Integrated NoSQL Database for Efficient Wireless Multimedia Sensor Networks
Korlan Zhumabekova, Adnan Yazici, Enver Ever
4. Gain Enhancement and WideBand Harmonic Suppression in Square-Ring Antenna using Defected Ground Structures for 5G Wireless Communications
Nabil Dakhli, Fethi Choubani
5. Design of a Novel Tunable Varactor-Compensated Phase Shifter Based-on Schiffman Topology for Ku-Band Continuous Beam Steering Applications
Rawia Wali

AINA-S4: Network Architectures, Protocols and Algorithms I**Session Chair: Kazunori Uchida, Fukuoka Institute of Technology, Japan**

1. Ray Tracing in Complicated Structures Based on Dynamic Dijkstra Algorithm
Kazunori Uchida and Leonard Barolli
2. A New Broadcasting Scheme Based on Reinforcement Learning-Driven Adaptive Fuzzy Logic in Mobile Ad Hoc Networks
Ismatov Akobir, BeomKyu Suh, Ki-Il Kim
3. End-to-End MACsec Encryption in a Two-Data Centre Network over Routed WAN
Olufemi Emmanuel Jesukomaiya, Maryam Bagheri, Salama Abdussalam
4. Optimization of Mode Multiplexers Based on Photonic Crystal Structures for Enhanced Performance in Mode Division Multiplexing Systems Using Particle Swarm Optimization (PSO)
Khaoula Aguech, Mourad Menif, Amine Ben Salem
5. NetFeatureXtract: Efficient Traffic Feature Extraction using eBPF
Gustavo Henrique Ellwanger Einsfeldt, Alberto Egon Schaeffer Filho

AINA-S5: Multimedia Networking and Applications II**Session Chair: Ines Chihi, University of Luxembourg, Luxembourg**

1. A Decentralized and Provenance-based Health Record System
Wagno Leao Sergio, Victor Stroele and Regina Braga
2. ML-Based Ontology Building and Query Expansion: Application To Medical Domain
Maher Chebl, Ghada Besbes, Hajer Baazaoui-Zghal
3. Understanding Reading Patterns of Albanian Native Readers through Mouse Tracking Analysis
Alba Haveriku, Sara Bedulla, Nelda Kote, Elinda Kajo Mece
4. Integrating Adaptive Human Computer Interaction in Fault Detection and Diagnosis Systems: A Human-Centric Approach for Industry 5.0
Rania Hamdani, Ines Chihi

AINA-S6: Cloud Computing Project and Initiatives (CCPI-2025) I**Session Chair: Beniamino Di Martino, University of Campania "Luigi Vanvitelli", Italy**

1. Designing a Cloud Continuum Architecture for a Collaborative Augmented and Virtual Reality Application in the Cultural Heritage Domain
Beniamino Di Martino, Gennaro Junior Pezzullo, Pasquale Vassallo
2. Explainable Reinforcement Learning for Assisting Air Traffic Controllers
Anduel Mehmeti, Gabriella Gigante, Salvatore Venticinque
3. Cloud, Edge, and Mobile Computing: Synergies for the Future of Smart Cities
Beniamino Di Martino, Domenico Di Sivo, Alba Amato
4. Innovating Cloud-Based Academic Services: Advancing the University of Naples Federico II's Infrastructure with Terraform and Oracle GoldenGate
Barone Giovanni Battista, Sabella Gianluca
5. SecCO-OC: Security Strategies for Containerized Microservices Architecture
Maurizio Giacobbe, Sarah Zanafti, Jiregna Abdissa Olana, Antonio Puliafito
6. Smart Cities: Integrating IoT and Cloud Computing for Smart Urban Applications
Luigi Colucci Cante, Mariangela Graziano, Beniamino Di Martino

AINA-S7: Frontiers of Information Systems and Network Applications (FINA-2025) I**Session Chair: Tomoya Enokido, Risho University, Japan**

1. Degree-Oriented Deterministic Approach for Maximum Independent Set
Ritika Verma, Shubham Jaswal, Abhay, Dharmendra Prasad Mahato
2. A Framework for Configurable Scalability Evaluations of IoT Platforms
Fabio Muratori, Yuening Yang, Zeineb Rejiba, Andrei-Marian Dan
3. Performance Improvement of AWGN filters by INLP Technique
Soumaya Fatnassi, Mohamed Yahia, Tarig Ali, Riadh Abdelfattah
4. TLA+ based specification and verification of a team formation protocol with message loss
Rajdeep Niyogi
5. Autoscaling Containerized Microservices: A Survey
Max Filippov, Manuel Mazzara

AINA-S8: Heterogeneous Wireless Networks (HWISE-2025) I**Session Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan**

1. Adaptive Handover Decision Parameter in Femtocell-Macrocell Networks
Maroua Ben Gharbia, Ridha Bouallegue

2. Reliable and Energy-Efficient Clustering Approach for FANETs Using a Fuzzy Logic System
Badia Bouhdid, Mouhammed Aissa
 3. Design and Implementation of an Energy-Autonomous IoT Sensor Node for Smart Agriculture
Ameni Mersani, Mintoua Toupkandi, Hiba Jouini
 4. Smart IoT-Enabled Autonomous Vehicles for Next-Generation Public Safety
Swarnamouli Majumdar, Anjali Awasthi, Sonny E. Kirkley, Lorant Andras Szolga, Mayur Srivastava
 5. Reconfigurable Intelligent Surfaces in Two-Way NOMA-AF Relaying Networks
Rania Jadlaoui, Wided Hadj Alouane, Hatem Boujemaa
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Lunch

12:30-13:30 (UTC+2) CEST Time Zone (Barcelona, Spain)

Parallel Sessions

13:30-15:30 (UTC+2) CEST Time Zone (Barcelona, Spain)

AINA-S9: Intelligent Computing and Machine Learning II

Session Chair: Omar K. Hussain, University of New South Wales, Canberra, Australia

1. Falafels: A Tool for Estimating Federated Learning Energy Consumption via Discrete Simulation
Andrew Mary Huet de Barochez, Stéphan Plassart, Sébastien Monnet
2. NER for Albanian Language: A Manually Annotated Corpus and Machine Learning Models
Nelda Kote, Klea Kalliri, Kejsi Kalliri, Alba Haveriku, Besjana Muraku, Elinda Kajo Mece
3. MLP-Mixer For Automatic Detection of Parkinsons Disease from Speech
Rania Khaskhoussy, Yassine Ben Ayed
4. Developing long-term Business Strategies by Leveraging Infeasible Recommendations of the Counterfactual Explanation Model
Amir Hossein Ordibazar, Omar K. Hussain, Ripon Chakraborty, Elnaz Irannezhad, Morteza Saberi
5. Automated Framework for Deep Learning Model Deployment on Edge Devices with Hardware Accelerator
Hoang Tran-Viet, Trung Dong-Quang, Quang Le-Hoang-Minh, Du Tran-Ngoc, Thang Nguyen-Minh, Kien Nguyen-Trung

AINA-S10: Security and Privacy II

Session Chair: Arcangelo Castiglione, University of Salerno, Italy

1. A Hybrid Machine Learning Method for Detecting Metamorphic Malware
Victor Manuel Gonzalez-Gorriñ, Josep Prieto, Joan Arnedo-Moreno
 2. Assessing the Threat of Neural Network Enhanced Obfuscation in Malware
Adrian Brodzik, Wojciech Mazurczyk
 3. Fusion of Significant Features and Superposition Feature Engineering for Malware Detection
Rama Krishna Koppanati, Sateesh Kumar Peddoju, Arya Deshmukh, Lakshya Joshi
 4. Privacy Benchmarking of Intrusion Detection Systems
Solayman Ayoubi, Gregory Blanc, Houda Jmila, Sebastien Tixeuil
 5. Application of CAPTCHA Codes in User Authorization Protocols
Aleksandra Macura, Marek R Ogiela, Lidia D Ogiela
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AINA-S11: Next Generation Mobile and Wireless Networks II**Session Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Multi-Objective Sand Cat Swarm Optimization for Efficient Multi-Hop Routing in Wireless Sensor Networks
Aida Zaier, Ines Lahmar, Mohamed Yahia, Tarig Ali, Ridha Bouallegue
2. LoRa Signal Performance in Satellite-Assisted LPWANs using Grahams Algorithm
Esau Bermudez, Jamilson Dantas, Paulo Maciel
3. Analysis of Satellite Aging and its impact on PDOP and Orbital Availability
Esau Bermudez, Jamilson Dantas, Paulo Maciel
4. LKSVC: A Novel VANET Caching Method by Integrating Location-based K-means Clustering into Spiking Neural Network
Yuanchen Li, Lin Guan, Ziyang Zhang, George Vogiatzis
5. Reinforcement Learning Based Trajectory Optimization for MEC-UAV
Filipe Samuel da Silva, Renata Kellen Gomes dos Reis, and Andson Marreiros

AINA-S12 : Network Architectures, Protocols and Algorithms II**Session Chair: Winston K. G. Seah, Victoria University of Wellington, New Zealand**

1. ElasticRoute: Dynamic Flow Routing for Wireless Access Networks
Duncan Ewan Cameron, Murugaraj Odiathevar, Alvin C. Valera, Winston K. G. Seah
2. Economic Method for Sensing Data Offloading in the Metaverse
Nan Zhao, Lang Wan, Juan Wang, Zhe Chen, Xu An Wang
3. Securing Maritime Critical Infrastructure: A Multi-Domain AODV-based Communication Protocol for UxVs
Konstantin Brandl, Axel Hahn, Jannis Weid
4. Mobile Traffic Prediction Method Based on Federated Proximal Algorithm
Pan Ruifeng, Xu An Wang
5. A Fuzzy-based Handover System for 5G/B5G Wireless Networks Considering Different Network Slicing Constraints: Effect of Slice Monetary Cost Parameter on Handover Decision
Phudit Ampirit, Shunya Higashi, Ermioni Qafzezi, Makoto Ikeda, Keita Matsuo, Leonard Barolli

AINA-S13: Distributed and Parallel Computing**Session Chair: Tomoya Enokido, Rissho University, Japan**

1. Improved Subject and Purpose-Oriented Serializability with Multi-Version Concurrency Control
Tomoya Enokido, Dilawaer Duolikun, Makoto Takizawa
2. AI4PM: Distributed and Intelligent Programmable Matter
Benoit Piranda, Mohammad Ali Nemer, Abdallah Makhoul, Julien Bourgeois
3. A Multi-agent Approach to Self-Distributing Systems
Bernardo Pandolfi Costa, Heitor Henrique da Silva, Analucia S. Morales, Luiz F. Bittencourt, Alison R. Panisson, Roberto Rodrigues-Filho
4. Distributed Configuration Recognition for 2D Lattice-Based Modular Robots
Jad Bassil, Benoit Piranda, Abdallah Makhoul, Julien Bourgeois
5. A P4 Practical Deployment of Priority Queues with Stratum and ONOS
Lauro de Souza Silva, Edison Pignaton de Freitas, Juliano Araujo Wickboldt

AINA-S14: Cloud Computing Project and Initiatives (CCPI-2025) II**Session Chair: Rocco Aversa, University of Salerno, Italy**

1. Deploying Large Language Model on Cloud-Edge Architectures: A Case Study for Conversational Historical Characters
Mariangela Graziano, Luigi Colucci Cante, Beniamino Di Martino
2. Towards a Business Process Driven Deployment and Decomposition of a Distributed Jurisdictional Information Management System on Cloud Continuum
Luigi Colucci Cante, Mariangela Graziano, Beniamino Di Martino, Rocco Aversa, Pietro Lupi
3. A Distributed Cloud based Architecture for Managing BIM Document Flows: Privacy and Copyright Compliance in Cloud Environment
Mariangela Graziano, Luigi Colucci Cante, Beniamino Di Martino, Alberto Pavan, Claudio Mirarchi
4. Cloud Edge Patterns for Federated Learning Applied to the Architectural Design of a Privacy-Preserving Monitoring System for Diabetic Patients
Gennaro Junior Pezzullo, Beniamino Di Martino, Antonio Esposito
5. The Impact of the CLOUD Regulation on Digital Information Management Methods and Tools in Public Procurement
Raffaele Picaro, Carla Pernice, Martino Monaco, Denard Veshi, Alessia Fachechi, Roberta Catalano, Luigi Colucci Cante, Mariangela Graziano, Beniamino Di Martino, Alberto Pavan, Claudio Mirarchi

AINA-S15: Frontiers of Information Systems and Network Applications (FINA-2025) II

Session Chair: R Madhusudhan, National Institute of Technology Karnataka, India

1. Large Language Models: An Empirical Study in Computer Science
Muhammad Naveed Zafar, Manuel Mazzara and Mahmoud Naderi
2. Optimizing UAV Path Planning and Energy Management Using Reinforcement-Learning and Digital Twins Simulation
Nesrine Maatouk, Asma Ben Letaifa, Abderrezak Rachedi
3. To Vaccinate or Not to Vaccinate? Analyzing X Power over the Pandemic
Tanveer Khan, Fahad Shorab, Antonis Michalakis, Moncef Gabbouj
4. Smart Land Registry System using Blockchain: Challenges and Solutions
R Madhusudhan, Diwakar Arya, Pravisha P

AINA-S16: Heterogeneous Wireless Networks (HWISE-2025) II

Session Chair: Evjola Spaho, Polytechnic University of Tirana, Albania

1. Analysis of High-Speed Radio Communication in THz Bands: Topological Impacts and Signal Decomposition Using Empirical Mode Decomposition and Marginal Hilbert Spectrum
Djamila Talbi, Gal Zoltan
2. Age of Information in Hybrid NOMA/OMA Systems Based on Particle Swarm Optimization
Hamdi Akram, Bouallegue Ammar, Najeh Sameh
3. A Framework for Integrating 5G and Vehicular Delay Tolerant Networks in Smart Cities
Evjola Spaho, Orjola Jaupi
4. ELSA: Energy and Link Stability Aware Routing Protocol for FANETs
Sourour Dhifaoui, Chiraz Houaidia, Leila Azzouz Saidane
5. A Concept of Performance Monitor for ADS-B in Japan
Junichi Honda

Coffee Break

15:30-16:00 (UTC+2) CEST Time Zone (Barcelona, Spain)

Parallel Sessions

16:00-18:00 (UTC+2) CEST Time Zone (Barcelona, Spain)

AINA-S17: Intelligent Computing and Machine Learning III

Session Chair: Farookh Khadeer Hussain, University of Technology Sydney, Australia

1. Multi-Factor Predictive Models of Carbon Credit Prices
Najlaa Alshatri, Safa Ghannam, Farookh Khadeer Hussain
2. Adaptive Heuristics for Obstacle Handling and Uncertainty in Modular Robots
Benoit Piranda, Julien Bourgeois, Jacques Demerjian, Abdallah Makhoul
3. Efficient Solid Waste Management in a Smart City Environment using IoRT enabled Robots
Nirali Sanghvi, Rajdeep Niyogi
4. Reliability of Firefighter Prediction Models Across Time and Peaks
Sirri Naoufal, Christophe Guyeux
5. Cross-Model Federated Learning-based Network Traffic Classification
Kainat Ibrar, Francesco Palmieri, Pietro Fusco, Massimo Ficco

AINA-S18: Security and Privacy III

Session Chair: Miltiadis Alamaniotis, University of Texas at San Antonio, USA

1. Employing PDDL Plan to Recommend Security Controls against Cyberattacks
Afaq Inayat, Matheus Saueressig, Muriel Figueredo Franco, Eder John Scheid, Lisandro Z Granville
2. Enhancing Vehicle Communication Security: Implementing Post-Quantum Solutions for CAN Networks
Arcangelo Castiglione, Teresa Elia
3. Intelligent System for Enhancing Nuclear Security in the Design of Maritime Ports Hosting Nuclear-Powered Ships
Miltiadis Alamaniotis
4. Multi-Secret Steganography Based on Polymorphic Keys
Marek R Ogiela, Urszula Ogiela
5. A Modular and Scalable Framework for Effective Server-side Forensic Analysis of XSS Attacks
Raffaele Pizzolante, Arcangelo Castiglione, Michele Mastroianni, Francesco Palmieri

AINA-S19: Next Generation Mobile and Wireless Networks III

Session Chair: Isaac Woungang, Toronto Metropolitan University, Canada

1. Intelligent and Adaptive RAN for 6G Networks
Mohamed Amine Hechmi, Sonia Ben Rejeb, Sami Tabbane
2. Characterization and Prediction of Customer (dis)satisfaction of a Mobile Internet Provider
Luiza B. Laquini, Vitor F. Zanotelli, Paulo H. L. Rettore, Antonio A. de A. Rocha, Giovanni Comarela, and Vinicius F. S. Mota
3. WiADL: Efficient WiFi CSI-Based ADL Recognition with WiFi Backscatter-Based Pseudo-Labeling
Kiichiro Kai, Hyuckjin Choi, Yugo Nakamura, Yutaka Arakawa
4. Towards Reliable and Cost-Effective Backhauling for Private 5G Networks: A Multipath Terrestrial-Satellite Transport Network Leveraging Multi-Armed Bandit Algorithms
Aleksandar Andreev Yonchev, Elena-Ramona Modroiu, Marius Corici, Thomas Magedanz, Cicek Cavdar
5. Deep Reinforcement Learning Based Resource Allocation in Ultra Reliable 5G Core Networks
Amel Khamoum, Nacer Hamani, Hakim Amrouche

AINA-S20 : Distributed Systems and Applications**Session Chair: Ashutosh Bhatia, Birla Institute of Technology and Science, Pilani, India**

1. ExProCO: An Explainable Probabilistic Campaign Optimizer for eCommerce Advertising
Arti Jha, Kamlesh Tiwari, Ashutosh Bhatia
2. Abstractive Summarization using Gated Graph Attention Networks
Divya Jyoti, Akhil Sharma, Shaswat Gupta, Prashant Manhar, Jyoti Srivastava, Dharmendra Prasad Mahato
3. Hidden Risks: The Centralization of NFT Metadata and What It Means for the Market
Hamza Salem, Hadi Salloum, Manuel Mazzara, Nursultan Askarbekuly, Karl Koberg, Giancarlo Succi
4. HEAL: Resilient and Self-* Hub-based Learning
Mohamed Amine Legheraba, Stefan Galkiewicz, Maria Potop-Butucaru, Sebastien Tixeuil
5. Causality-Based Approach in Retail for Finer Product Clustering
Jean-Christophe Ricklin, Ines Ben Amor, Raid Mansi, Vassilis Christophides, Hajer Baazaoui

AINA-S21: Distributed Ledger Technologies and Blockchain**Session Chair: Nour El Madhoun, LISITE ISEP, France**

1. Investigates of Terra Ecosystem Collapse: Analysis and a Comparison Study Between Simulated and Real Results
Isaac de Abreu Gaspar, Antonio A. de A. Rocha
2. Parimutuel Betting on Blockchain: A Case Study on Horse Racing
Hiroki Uedan, Yang Li, Kazuo Sakiyama, and Daiki Miyahara
3. Implementation of Two-Signature Security on an Identity Storage Smart Contract
Daniel Maldonado-Ruiz, Chan Yeong Hwang, Elina Jankovskaja, Karima Sadykova, Messilva Mazari, Jenny Torres, Nour El Madhoun
4. Mitigating Balancing Attack on Ethereum PoS
Ahmad Atwi, Yackolley Amoussou Guenou, Maria Potop-Butucaru, Bilel Zaghdoudi
5. Blockchain-Enabled Verifiable Credential CAPTCHA
Nghia Dinh Trong, Huy Tran Tien, Lidia D Ogiela, Vinh Truong Hoang, Vaclav Snasel

AINA-S22: Cloud Computing Project and Initiatives (CCPI-2025) III**Session Chair: Salvatore Venticinque, University of Campania "Luigi Vanvitelli", Italy**

1. A Moving Target Defense Framework to Improve Resilience of Cloud-Edge Systems
Valentina Casola, Alessandra De Benedictis, Daniele Iorio, Salvatore Migliaccio
2. Federated Learning Algorithm for Identification of Apnea Sleeping Disorder
Pietro Fusco, Palma Errico, Salvatore Venticinque
3. Machine Learning and Artificial Intelligence at the Edge: Federated Learning for Colposcopy Data Analysis
Mario A. Bochicchio, Amin Tunj Gure, Sileshi Nibret Zeleke
4. Performance Analysis of AI-Driven Security Models in the Cloud-Edge Continuum for Monitoring Critical Infrastructures
Maitham Al-rubaye, Atakan Aral
5. Edge-Cloud Distributed Approaches to Text Authorship Analysis: A Feasibility Study
Lelio Campanile, Maria Stella De Biase, Fiammetta Marulli

AINA-S23: Frontiers of Information Systems and Network Applications (FINA-2025) III**Session Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Decentralized Marketplace for Maintenance of Electric Vehicles
Pranav Deepak Tanna, Saumya Sharma, Ankit Agrawal, Ashutosh Bhatia, Kamlesh Tiwari

2. Survey on Requirements Elicitation Techniques for UI Design Projects
Marko Pezer, Daniil Shilintsev, Mahmoud Naderi, Manuel Mazzara
3. Scheduling in Fog, Edge and Cloud Computing: A Review
Hadhemi Ben Khalifa, Sahar Kallel, Ismael Bouassida Rodriguez
4. Real-Time Video Stream Processing: Spark-Based Sub-Stream Generation for Scalable Analytics
Yasemin Demiral, Ahmet Sayar

AINA-S24: Engineering Energy Efficient Internetworked Smart Sensors (E3WSN-2025)**Session Chair: Leonardo Mostarda, University of Perugia, Italy**

1. Engineering Blockchain-Based Narrowband Internet of Things Applications for Energy Optimization
Hafizullah Kakar, Vamshi Sunku Mohan, Swapnoneel Roy, Ayan Dutta, Patrick Kreidl, Ladislau Bölöni, Sriram Sankaran
 2. Zero-Knowledge CO2 Emission Certification for Construction Vehicles
Emanuele Scala, Giamarco Mazzante, Leonardo Mostarda
 3. DemetrIA: An AI-driven Process Mining Ecosystem for Efficient and Sustainable Manufacturing
Diletta Cacciagrano, Leonardo Vito
 4. A Deep Learning-Based RIDNet Approach for Enhanced Denoising of SAR Images
Muhammad Akhter, Farhan Ullah, Leonardo Mostarda, Diletta Cacciagrano
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Welcome Reception Party**19:00-21:00 (UTC+2) CEST Time Zone (Barcelona, Spain)**Open University of Catalonia

Thursday, 10 April, 2025**AINA-2025 Keynote II****09:00-10:00 (UTC+2) CEST Time Zone (Barcelona, Spain)****AINA-2025 Keynote Talk II****Prof. Javier Lopez:** Standardization Efforts for Digital Twins: An Analysis from The Security Side

Coffee Break**10:00-10:30 (UTC+2) CEST Time Zone (Barcelona, Spain)**

Parallel Sessions**10:30-12:30 (UTC+2) CEST Time Zone (Barcelona, Spain)****AINA-S25: Intelligent Computing and Machine Learning IV****Session Chair: Fatos Xhafa, Technical University of Catalonia, Spain**

1. Collaborative Warehouse Order Fulfillment via Goal-directed Curiosity and Hierarchical Reinforcement Learning
Maram Hasan, Rajdeep Niyogi
2. Hybrid BERT-CNN Approach for Medical Text Classification
Ghada Ben Abdennour, Ridha Ejbali, Karim Gasmi
3. Terrorist Group Detection Framework
Nour El Houda Ben Chaabene
4. MDNet: Advanced MRI and IDH Status for Enhanced MGMT Prediction in Glioma
Yu Qiao, Sayan Kumar Ray, Md Akbar Hassain
5. HIR-GAN-DWT: Historical Image Restoring Using Generative Adversarial Networks and Discrete Wavelet Transform
Nesrine Chaibi, Fatma Ben Aissa, Belgacem Chaibi, Mourad Zaied

AINA-S26: Security and Privacy IV**Session Chair: Vamsi Krishna Paruchuri, University of Central Arkansas, USA**

1. Enhancing Ethereum Smart Contract Security: A Comprehensive Analysis Using CVSS and Mitigation Strategies
Vamsi Krishna Paruchuri, Ali Bakhshi
 2. Leveraging Large Language Models for Reducing False Positives and Prioritizing Alerts in Intrusion Detection Systems
Ali Mustafa, Fouad Trad, Ali Chehab
 3. Transformative Intelligence in Advanced Security Infrastructure
Lidia D Ogiela, Makoto Takizawa, Marek R Ogiela, Shigenari Nakamura
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4. Leveraging Open-Source LLMs for Zero-Shot Vulnerability Detection: A Comparative Analysis
Nicola Capuano, Vincenzo Carletti, Pasquale Foggia, Giuseppe Parrella, Mario Vento
5. Encrypted Network Traffic Classification for QUIC Protocol: A Transfer Learning Approach
Aman Ullah Bhuiyan, Ashikun Nabi, Raqeebir Rab, Abderrahmane Leshob, Tasnim Mahmud, Adil Ahmed Kha

AINA-S27: Next Generation Mobile and Wireless Networks IV

Session Chair: Flavio de Oliveira Silva, University of Minho, Portugal

1. Dynamic ON-OFF Energy Efficiency in HetNets based Genetic and Particle Swarm Optimization techniques
Hmidi Khaled, Najeh Sameh, Bouallegue Ammar
2. Performance of PRS in Two-Way NOMA-AF Relaying Networks
Rania Jadlaoui, Wided Hadj Alouane, Adel Ben Mnaouer, Hatem Boujemaa and Omar Tayan
3. A Method for Cellular Coverage Modeling in the Presence of Anomalies Using Neural Networks and Gaussian Processes
Daniel Ricardo Cunha Oliveira and Flavio de Oliveira Silva
4. Dual Connectivity for Seamless Mobility in Software Defined Content Delivery Networks (SD-CDN)
EL kamel Ali, Habib Youssef
5. Location based Producer Mobility Tracing for Named Data Networking
Hieu Nguyen, Jaedo Park and Ilkyeun Ra

AINA-S28: Internet of Things and Cyber-Physical Systems I

Session Chair: Benoit Piranda, University of Franche-Comté, France

1. Performance Evaluation of IoT-Enabled Edge Computing Infrastructure for mHealth Services
Hermyson Oliveira, Kádna Camboim, David Beserra, Jean Araujo
2. Balancing Predictive Accuracy and Explainability in Maintenance: An ARMA-GARCH Approach
Yosr Baccari, Nesrine Khabou, Ismael Bouassida Rodriguez
3. A Real-time Distributed UAV-WSN Framework for Traffic Monitoring
Muhammad Mansoor Ashraf, Saadi Boudjit
4. Building Trusted Relations in the Social IoT
Zakaria Maamar, Amel Benna, Oussama Djedidi
5. Creating an Artwork with a Modular Robot Composed of 1,824 Modules
Benoit Piranda, Frédéric Lassabe, Rémy Tribhout, Gregory Lasserre, Julien Bourgeois

AINA-S29: Multimedia Networking and Applications I

Session Chair: Euripides G.M. Petrakis, Technical University of Crete (TUC), Greece

1. A Dynamic-adaptive Architecture for Immersive and Interactive 3D Collaborative Virtual Environments
Diego Roberto Colombo Dias, Marcelo Paiva Guimarães, Giovanni V. Comarella, Vinícius F. S. Mota, Vitor Fontana Zanotelli, Luis Carlos Trevelin
2. TWIST: The Web Interface for Smart Things
Aimilios Tzavaras, Manousos Boliotis, Chrisa Tsinaraki, Euripides G.M. Petrakis
3. Mixture of Incremental SVM-Based Experts for Enhanced QoE Prediction in Video Streaming
Radhia Elwerghemmi, Riadh Ksantini, Ridha Bouallegue
4. Reeb Graph-Driven Advanced Similarity Measures for 3D Object Analysis: A Multi-Methodological Approach Leveraging Persistent Homology and Geometric Normalization in Digital Heritage and Beyond
Makram Mestiri, Amos Fergombé, Arnaud Huftier
5. Bridging Content Management and Micro-Frontends: A WordPress-Centric Approach to Modern Web Architecture
Stefan Secrieru, Sebastian-Aurelian Stefaniga

AINA-S30: Cloud Computing Project and Initiatives (CCPI-2025) IV**Session Chair: Salvatore D'Angelo, University of Campania "Luigi Vanvitelli", Italy**

1. Benchmarking STAC Ecosystem Server Backends in Dataset Creation Applications
Alexandru Munteanu, Gabriel Iuhasz, Silviu Panica
2. Federated Learning for Training Brain-Computer Interfaces
Alba Amato, Vittorio Belardo, Domenico Di Sivo, Pietro Fusco, Salvatore Venticinqu
3. Federated Learning Framework for Privacy-Preserving AI in Healthcare
Germano Ammirata, Gennaro Pezzullo, Salvatore Contino, Beniamino Di Martino, Roberto Pirrone
4. Review of Policy-as-code Approaches to Manage Security and Privacy Conditions in Edge and Cloud Computing Ecosystems
Beniamino Di Martino, Salvatore D'Angelo, Gennaro Junior Pezzullo, Dario Branco, Gerardo Pelosi, Alessandro Barengi, Simone Orlando
5. ADAPTO: Scaling and Offloading Cloud-Native Network Functions in Future Mobile Networks
Alessio Botta, Roberto Canonico, Annalisa Navarro, Giovanni Stanco, Giorgio Ventre, Antonio Buonocunto, Antonio Fresa, Enzo Gentile, Leonardo Scommegna, Enrico Vicario, Enzo Mingozzi, Antonio Viridis, Marcello Cucurachi

AINA-S31: Intelligent and Bio-Computing Systems (BICom-2025)**Session Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan**

1. Applying Artificial Intelligence Techniques on Cyber Attacks Dataset
Omaia AL-Omari, Yazan AlShboul, Awad Alyousef, Fatima Barakat AlShannaq, Asem Omari
2. Application of Selected Machine Learning Models in Leaf-Based Plant Health Assessment
Jakub Filipek, Marek Pawlicki, Ryszard Chora, Rafal Kozik, Aleksandra Pawlicka, Michal Choras
3. Multi-Agent Deep Reinforcement Learning for Coverage in Unknown Environments
Nirali Kailesh Sanghvi, Rajdeep Niyogi, Onika Yadav
4. An Optimized Bounding Box Technique for Enhanced Underwater Fish Detection
Mahdi Hamzaoui, Mohamed Ould-Elhassen Aoueileyine, Seifeddine Bouallegue, Ridha Bouallegue
5. Acoustic Detection of European Bee-Eaters Using YAMNet and Bi-LSTM Networks for Honeybee Protection
Sonia Mosbah, Dorsaf Hrizi, Ismail Bokri, Eya Ben Moulehem, Mehdi Fgaier, Nour Ben
6. Research on Network Congestion Recognition Based on Improved Genetic Algorithm
Chi Yan, Zhenzhen Li, Siyu Dong, Liping Shi

Lunch**12:30-13:30 (UTC+2) CEST Time Zone (Barcelona, Spain)**

Parallel Sessions**13:30-15:30 (UTC+2) CEST Time Zone (Barcelona, Spain)**

AINA-S32: Intelligent Computing and Machine Learning V**Session Chair: Arjan Durresi, Indiana University, USA**

1. Federated Learning Platforms for Privacy-Preserving Histopathological Image Classification
Diogen Babuc, Teodor-Florin Fortis
2. EUAS-GAN: Enhancing User Authentication on Smartphones through GAN-Based Swiping Data Augmentation
Attaullah Buriro, Flaminia Luccio, Riccardo Focardi
3. Leveraging Large Language Models and Causal Inference to Build Trust in Environmental Decision-Making
Suleyman Uslu, Mehedi Mahmud Kaushik, Praneeth Reddy Mukthapuram, Sri Rama Krishna Reddy Dwarampudi, Arjan Durresi
4. ECHO-M: Towards an Ethical Framework for Selecting Cultural Heritage Objects for Digitization in Metaverse
Khouloud Boukadi, Najla Fattouch, Makram Mestiri, Irene Sartoretti, Arnaud Huftier

AINA-S33: Security and Privacy V**Session Chair: Hiroaki Kikuchi, Meiji University, Japan**

1. Honey-Proxy: Revealing Malicious Activities via Residential Proxies
Hiroaki Kikuchi, Ryuichi Moriya, Takumi Kitahara, Hikari Fukuda
2. Key-Recovery Attack Against Ascon Using 1-Bit Random Fault Model
Soki Nakamura, Daiki Miyahara, Yang Li, Kazuo Sakiyama
3. Does Cyber-Security Training Translate to Effective Prevention of Online Harms?
Johannes Klemm, Anne Kayem
4. Privacy-Preserving News Recommendation Over Homomorphic Encryption
Eishin Nakano, Takuya Suzuki, Yuki Yada, Hayato Yamana
5. A Cost-Effective AIR System for Browser-based Geolocation and Cloaking Attacks
Masood Mansoori, Junaid Haseeb, Ian Welch

AINA-S34: Cloud and Services Computing I**Session Chair: Dilawaer Duolikun, Hosei University, Japan**

1. How Effective are OS-level Virtualization Tools for Managing Containers?
David Beserra, Robert Nantchouang, Mickael Chau, Marc Espie, Patricia Endo, Jean Araujo
2. Performance Evaluation of Serverless Computing Infrastructure: Insights from Open-Source Frameworks
Antonio Sousa, David Beserra, Jean Araujo
3. Enhanced Image Security in Cloud Computing Using Hybrid Encryption with ECC and Spatiotemporal Cryptography
Ismehene Chaouch, Anis Naanaa, Sadok El Asmi
4. A Network-based Selection Algorithm of an Energy-efficient Succeeding Fog Node in the NBFC Model
Dilawaer Duolikun, Shigenari Nakamura, Tomoya Enokido, Makoto Takizawa
5. K-Means and Dynamic Thresholding for Countering Ballot Stuffing Attacks in Fog Computing
Rasagna V, Geethakumari G

AINA-S35: Internet of Things and Cyber-Physical Systems II**Session Chair: Mario A. R. Dantas, UFIF, Brazil**

1. Computational Resource Allocation in e-health Environments: A Mapping Study
Mateus G. do Nascimento, José Maria N. David, Mario A. R. Dantas, Regina Braga, Victor Ströele
2. Adaptive Offloading in Federated Virtual Sensors for Efficient Resource Management in IoT Systems
Klea Elmazi, Donald Elmazi, Jonatan Lerga

3. A Human-In-the-Loop Approach for Self-Protecting Smart Homes
Josival dos S. Silva, Fernando A. A. Lins, and Nelson S. Rosa
4. Anomaly-based Intrusion Detection System Using ESP32-WROOM-DA
Biagio Boi, Franco Cirillo, Marco De Santis, Christian Esposito
5. RAS-IoT: A Container-based Solution for IoT Application Replacement
Vladimir Gualberto Da Silva, Fernando Antonio Aires Lins, Nelson Souto Rosa

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AINA-S36: Security and Truth in the Era of AI-Generated Media Manipulation (STAMM-2025) I**Session Chair: Chiara Pero, University of Salerno, Italy**

1. ReenactFaces: A Specialized Dataset for Reenactment-based Deepfake Detection
Vazken Vanian, Georgios Petmezas, Konstantinos Konstantoudakis, Dimitrios Zarpalas
2. A Text Mining Approach to Sentiment-Based Fake News Detection Using Finite Automata
Alberto Postiglione
3. Mel Spectrogram-Based CNN Framework for Explainable Audio Deepfake Detection
Muhammad Khurram Zahur Bajwa, Aniello Castiglione, Chiara Pero

AINA-S37: Cloud Computing Project and Initiatives (CCPI-2025) V**Session Chair: Antonio Esposito, University of Campania "Luigi Vanvitelli", Italy**

1. Bridging Efficient and Explainable Traffic Flow Prediction on the Edge
Mario Barbareschi, Antonio Emmanuele, Nicola Mazzocca, Franca Rocco di Torrepadula
2. Automation and Visualization of Knowledge in Cloud Services: A Semantic Ontology Enhanced by Generative AI Models
Beniamino Di Martino, Antonio Esposito, Francesco Fiorentino
3. An Implemented Architecture for a Meta Operating System Managing Distributed Applications across Heterogeneous Resources
Geir Horn, Yiannis Verginadis, Giannis Ledakis, Nikos Papageorgopoulos, Simos Veloudis
4. Network Traffic Analysis Framework for E-Sports: The UPSIDE Dataset
Massimiliano Rak, Paolo Palmiero, Felice Moretta
5. PUF-based Secure Key Management for Continuum Computing
Mario Barbareschi, Valentina Casola, Antonio Emmanuele, Daniele Lombard

AINA-S38: Intelligent Cyber-Physical Security (ICPS-2025) I**Session Chair: Francesco Palmieri, University of Salerno, Italy**

1. A Mobile Forensic Tool for Enhancing Cyber-Physical Security by Detecting XSS Attacks Through Web Server Access Log Analysis
Raffaele Pizzolante, Arcangelo Castiglione, Michele Mastroianni, Francesco Palmieri
2. Proxy-Based Approach for Securing Modbus Communication with Post-Quantum Cryptography: A Hydrogen-Based Smart Grid Case Study
Manuel Fabiano, Francesco Longo, Giovanni Merlino, Davide Aloisio, Giovanni Brunaccini, Francesco Sergi
3. Enhancing Security in E-Sports Events: Approach to Cheating Mitigation Using Kiosk Systems
Massimiliano Rak, Umberto Barbato, Antonio Liberti
4. CTAT: A Blockchain-Driven Conditional Traceable Access Token for Enhancing Performance and Security in the Supply Chain of Sensitive Pharmaceuticals
Hadis Rezaei, Massimo Ficco, Francesco Palmieri
5. Power Analysis of Post-Quantum Cryptography NIST Algorithms in Resource-Constrained Microcontroller
Gennaro Pio Rimoli, Luigi Gallo, Pietro Fusco, Massimo Ficco

Coffee Break

15:30-16:00 (UTC+2) CEST Time Zone (Barcelona, Spain)

Parallel Sessions

16:00-18:00 (UTC+2) CEST Time Zone (Barcelona, Spain)

AINA-S39: Intelligent Computing and Machine Learning VI

Session Chair: Wei Lu, Keene State College, USNH, USA

1. On the Challenges of Implementing MLOps for Stream Learning Algorithms
Miguel G. Rodrigues, Eduardo K. Viegas, Fabricio Enembreck, Altair O. Santin, Juliano S. Langaro, and Adilson G. Filho
2. TinyML-Based Intrusion Detection System for Handling Class Imbalance in IoT-Edge Domain using Siamese Neural Network on MCU
Massimo Ficco, Pietro Fusco, Francesco Palmieri, Gennaro Pio Rimoli, Alberto Montefusco
3. The Value of Complaints: Churn Prediction in a Major Residential Internet Service Provider Using Textual Data
Wadham Entringer Bottacin, Vitor Fontana Zanotelli, Matheus S. De Martins, Pedro de Moraes, Rodolfo S Villaca, Vinícius F S Mota, Magnos Martinello, Antonio A. de A. Rocha, Giovanni Comarela
4. AI-Based Noninvasive Pain Detection in Alzheimers Patients Using Facial Micro-Expression Analysis
Eric Brown, Andrew Lu, Wei Lu
5. Strategies for Customer Churn Mitigation with Attendant Recommendation Systems
Adolpho O dos Santos Filho, Vitor Fontana Zanotelli, Giovanni Comarela, Antonio A. de A. Rocha

AINA-S40: Security and Privacy VI

Session Chair: Isaac Woungang, Toronto Metropolitan University, Canada

1. DDOS Attack Detection in SD-IOT Networks Using CTELC
Khawla Al-tarawneh, Nadia Salem, Saleh H. Al-Sharaeh, Asma Salem, Hamza Salem, Siham Hattab, Manuel Mazzara
2. A New Privacy Modeling and Enhancement Methodology for JCAS-Enabled Railway Applications
Yevhen Zolotavkin, Prajnamaya Dass, Stefan Köpsell
3. Hidden Risks: The Centralization of NFT Metadata and What it Means for the Market
Hamza Salem, Hadi Salloum, Manuel Mazzara, Nursultan Askarbekuly, Karl Koberg
4. A Secure Routing Protocol for Opportunistic Networks
Jagdeep Singh, Sanjay Kumar Dhurandher, Isaac Woungang

AINA-S41: Cloud and Services Computing II

Session Chair: Fatos Xhafa, Technical University of Catalonia, Spain

1. SaaS-Enabled RGB to Hyperspectral Imaging: A Novel Paradigm in Image Processing Technology
Robert Williamson, Carlos Reano, Jesus Martinez del Rincon, Anastasios Koidis
 2. Development of a Tranformer-based Large Language Model architecture in cloud
Theodor Radu Grumeza, Thomas Andrei Lazar, Alexandra Emilia Fortis
 3. Kubernetes in the Cloud vs. Bare Metal: A Comparative Study of Network Costs
Amjad Ullah, Rodrigo Momo Redoli
 4. A weighted Framework for Security Patterns Selection Used for Hosting On The Cloud
Asma Salem, Amjad Hudaib, Nadia Salem, Khawla Al-tarawneh, Hamza Salem, Manuel Mazzara
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AINA-S42: Internet of Things and Cyber-Physical Systems III**Session Chair: Alfredo Navarra, University of Perugia, Italy**

1. Data-Driven Prediction Models for Wireless Network Configuration
Samir Si-Mohammed, Fabrice Theoleyre
2. When Colorimetry meets the Cloud: IoT-enabled Health Monitoring at Home via Highly-specific Gas Sensing
Ismael Benito-Altamirano, Omar Romera-Aller, Miquel Alfaras, Zouhair Haddi, Anas Espinosa, Xavier Llauro, Jose A. Saez, Cristian Fabrega Gallego
3. Ensuring IoT System Fault Tolerance using Deep Learning and Multi-Criteria Decision Analysis
Abdelhamid Bouazza, Hichem Debbi, Hicham Lakhlef
4. The Merge consensus problem and its use in scalable IoT state channels
Davide Sestili, Leonardo Mostarda, Alfredo Navarra
5. DCD-FL: A Decentralized Federated Learning Framework for Intrusion Detection in IoT
Francisco Assis Moreira do Nascimento, Fabiano Hessel

AINA-S43: Security and Truth in the Era of AI-Generated Media Manipulation (STAMM-2025) II**Session Chair: Aniello Castiglione, University of Salerno, Italy**

1. NLP-Driven Analysis of Users' Reaction for Estimation of Information Disorder Propagation
Gennaro Pezzullo, Alba Amato, Beniamino Di Martino, Daniele Granata, Massimiliano Rak, Salvatore Venticinqu
2. Comparative Evaluation of Synthetic Image Detectors: Insights from Generative Adversarial Networks and Stable Diffusion Generators
Andrea F. Abate, Lucia Cimmino, Matteo Polsinelli
3. Telemedicine in MCPS: A proposed design and implementation of a Secure and Transparent Healthcare Blockchain application to ensure data security and integrity
Beatrix-May Balaban, Ioan Sacala, Petrescu-Ni Alina Claudia
4. Detecting Manipulated Digital Entities through Real-World Anchors
Ronghua Xu, Xinyun Liu, Deeraj Nagothu, Qian Qu, Yu Chen

AINA-S44: Cloud Computing Project and Initiatives (CCPI-2025) VI**Session Chair: Beniamino Di Martino, University of Campania "Luigi Vanvitelli", Italy**

1. Strategies for Flow-Based Deployment and Orchestration in Cloud-Edge Interactive Computing
Beniamino Di Martino, Salvatore D'Angelo, Gennaro Junior Pezzullo, Antonio Esposito, Gianmarco Spinatelli, Francesco Polzella, Andrea Carollo, Giacomo Corridori
2. A Novel Data Store Supporting the Decentralized Data Management in the Cloud Computing Continuum
George Georgakakos, Yiannis Verginadis
3. Steps Towards an IoMT-Enabled Platform Supporting Healthcare Use-Cases
Diogen Babuc, Ionica-Larisa Puiu, Teodor-Florin Fortis
4. A Hybrid Microservices Architecture for Smart Glasses: Integrating Cloud-based LLMs, Containerized Services, and On-Device Functionalities
Theodor Radu Grumeza, Thomas Andrei Lazar, Alexandra Emilia Fortis
5. Exploring the Synergies of Multi-Agent Systems and Digital Twins
Ionica Larisa Puiu, Teodor-Florin Fortis

AINA-S45: Intelligent Cyber-Physical Security (ICPS-2025) II**Session Chair: Gianni D'Angelo, University of Salerno, Italy**

1. Epidemic Analysis of the Propagation of Multiple Malware Infectious in Wireless Sensor Networks
Leila Moradi, Eslam Farsimadan, Gianni D'Angelo, Bruno Carpentieri, Francesco Palmieri
 2. Mobile Biometrics: Innovations, Challenges, and Emerging Trends
Attaullah Buriro, Flaminia Luccio
 3. Biomechanical Data for Activity Recognition in e-Sports and the Metaverse: An Agnostic Model and Analysis Framework
Massimiliano Rak, Umberto Barbato, Francesco Grimaldi
 4. QR Code Scanning as a Highly Available Surrogate of NFC for Verifiable Presentation Exchange
Gnana Prakash Goli, Mauro Migliardi, Isil Atabek, Irem Goksu Celik
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Banquet Party**19:00-21:00 (UTC+2) CEST Time Zone (Barcelona, Spain)**<TBA>

Friday, 11 April, 2025**AINA-2025 Keynote III**

09:00-10:00 (UTC+2) CEST Time Zone (Barcelona, Spain)

AINA-2025 Keynote Talk III

Prof. Farookh Khadeer Hussain: Blockchain and Smart Contracts for Sustainability: Case Study of Carbon Credits and Biochar

Coffee Break10:00-10:30 (UTC+2) CEST Time Zone (Barcelona, Spain)

Parallel Sessions

10:30-12:30(UTC+2) CEST Time Zone (Barcelona, Spain)

AINA-S46: Intelligent Computing and Machine Learning VII**Session Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan**

1. Enhanced Lung Cancer Detection Using Vision Transformer for Features Extraction and SVM Classification
Dorsaf Hrizi, Khaoula Tbarki Tbarki, Sadok Elasm
2. Broad Learning System Scheme for Multi-Server MEC Wireless Networks
Zhihan Cui, Jiancheng Chi, Yuto Lim, Yasuo Tan
3. Enhancing Cybersecurity: Malicious Webpage Detection using Machine and Deep Learning
Madhusudhan R, Saurabh V Surashe, Pravisha P
4. Context-Rich Interactions in Mixed Reality through Edge AI Co-Processing
Alex Orsholits, Manabu Tsukada
5. A Swarm Intelligence Approach to Safeguard UAVs for Reconnaissance
Dhaval S Jha, Rajdeep Niyogi

AINA-S47: Security and Privacy VII**Session Chair: Lidia D Ogiela, AGH University of Krakow, Poland**

1. Enhanced SIM Swap Security Practices via Ceremony Modeling
Larissa Gremelmaier Rosa, Gustavo Zambonin, Jean E Martina
 2. An Adaptive Reinforcement Learning-based Approach for Effective Cyber Denial & Deception Strategies Finding
Amal Sayari, Slim Rekhis, Yacine Djemaiel, Ali Mabrouk
 3. Transformer-Based Semantic Reverse Engineering Method for Firmware Binary Protocols
Xinyue Jin, Shanyi Xie
 4. New Distributed Steganographic Techniques
Kamil Woniak, Marek R Ogiela, Lidia D Ogiela
 5. Double Proof-of-Work Scheme for the Key Transfer in the Steganographic Communication
Pawel Rajba, Wojciech Mazurczyk, Joerg Keller
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AINA-S48: Trust Computing**Session Chair: Shigenari Nakamura, Tokyo Denki University, Japan**

1. Enhancing Trust in Central Differential Privacy Using zk-SNARKs and Cryptographic Hashes
Rezak Aziz, Samia Bouzefrane, Youakim Badr
2. Cooperative Trust Based Detection Mechanism for Fake Objects in Collective Perception Messages
Oumaima Zanouni, Aida Ben Chehida Douss, Mohamed Mosbah
3. Zero Trust Model with the Information Flow Control
Shigenari Nakamura, Lidia D Ogiela, Makoto Takizawa
4. A Fuzzy-based System for Evaluation of User Trust Considering Tie Strength as a New Parameter in Social Networks
Shunya Higashi, Phudit Ampririt, Makoto Ikeda, Keita Matsuo, Leonard Barolli

AINA-S49: Internet of Things and Cyber-Physical Systems IV**Session Chair: Tomoya Enokido, Rissho University, Japan**

1. Programmable Solutions for Low-power Lossy Wireless Networks: A Study of SDN and Femto Containers
Ahmad Mahmud, Julien Montavont, Thomas Noel
2. A Cyclical Penetration Testing Automation Methodology: the JetRacer Case Study
Daniele Granata, Massimiliano Rak, Felice Moretta, Fabio Fiumara
3. DySwitch: Dynamic Switching to Enable Secure and Energy Efficient Data Communication in Resource Constrained IoT Environment
Shreeram Hudda, K Haribabu
4. An IoT-Based Multimodal Wearable Framework for Real-Time Epileptic Seizures Detection Using TinyML
Yasmine Ben Dhiab, Moez Hizem, Nader Karmous, Mohamed Ould-Elhassen Aoueilayine, Ridha Bouallegue

AINA-S50: Cybersecurity and Intelligent System (CIS-2025)**Session Chair: Fatos Xhafa, Technicfal University of Catalonia, Spain**

1. Network Intrusion Detection based on CNN-BiGRU
JiaMing Wang, Kai Yang, Wei Cong, MinJing Li, Lihui Bai, Xu An Wang
2. Spatial-aware Enhancement Based dehazing Method for Low Illumination Images
Juan Wang, Guanhai Chen, Sheng Wang, Nan Zhao, Hao Yang, Zizhen Zhang, Wang Xu An, Jixiang Shao
3. On the Insecurity of Iterative Outsourcing Computation Algorithms to the Cloud
Xu An Wang, Kaiyang Zhao, Hao Liu
4. An Efficient Secure Outsourcing Modular Exponentiation Algorithm in Single Server Setting
Xu An Wang, Yuanhang Zhang, Hao Liu, Jindan Zhang
5. Obfuscating Network Structure from Blockchain Analysis
Asfa Khalid, Sean Og Murphy, Cormac J. Sreenan, Utz Roedig

AINA-S51: Collaborative Systems and Applications (COLLABES-2025)**Session Chair: Farookh Khadeer Hussain, University of Technology Sydney, Australia**

1. Context-Aware Adaptive Security Framework for IoT-based Patient Monitoring Systems
Yasmine Ben Dhiab, Mohamed Ould-Elhassen Aoueilayine, Ridha Bouallegue
2. Harnessing Large Language Models for Personalized Learning: A Case Study in Algorithm Education at Mu'tah Universit
Nadia Salem, Loai Alnemer, Khawla Al-tarawneh, Hamza Salem, Manuel Mazzara, Asma Salem
3. A Framework for SLA Violation Prevention in Cloud of Things Environment
Falak Nawaz, Naeem Khalid Janjua, Omer Khadeer Hussain

4. Using UAVs and Retrieval Augmented Generation for Situational Awareness in Rescue Operations
Matheus B. Jenevain, Milena F. Pinto, Mario A. R. Dantas, and Las R. Berno
5. Human Factors Influencing Australian Manufacturing SMEs' Adoption of Collaborative Robots: A Qualitative Study
Mashaël Ali Haddas, Farookh Khadeer Hussain

AINA-S52: Big data processing in Online Social Network (BOSON-2025)**Session Chair: Flora Amato, University of Naples Federico II, Italy**

1. Machine Learning Approaches for Detecting Subclinical Mastitis in Dairy Animals: A Brief Review of Recent Literature
Alessandra Amato, Francesco Bonavolont' a, Mattia Fonisto, Maria Teresa Verde
 2. Toward Resilient Predictive Maintenance in Complex Industrial Processes
Alberto Moccardi, Egidia Cirillo, Alessandro Del Prete, Zahida Mashaallah
 3. Adaptive AI in Concurrent Engineering: A Paradigm Shift in Design and Integration
Claudio Ciano, Philipp Chrszon, Philipp Martin Fischer, Flora Amato, Andreas Gerndt
 4. An Anthropocentric Vision of AI for Industry 5.0: Distributed Databases, Data Mining, and Intelligent Interfaces for Human Empowerment
Egidia Cirillo, Alessandro Del Prete, Zahida Mashaallah, Alberto Moccardi
 5. Predictive Algorithms for Maintenance Planning and Optimization in Industrial Applications
Alessandro Del Prete, Egidia Cirillo, Zahida Mashaallah, Alberto Moccardi
 6. Resilient Machine Learning Techniques for Improving Underwater Images
Zahida Mashaallah, Egidia Cirillo, Alessandro Del Prete, Alberto Moccardi
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Lunch**12:30-13:30 (UTC+2) CEST Time Zone (Barcelona, Spain)**

Parallel Sessions**13:30-15:30 (UTC+2) CEST Time Zone (Barcelona, Spain)****AINA-S53: Intelligent Computing and Machine Learning VIII****Session Chair: Michail Alexiou, Kennesaw State University, USA**

1. Towards an Efficient Semantic Modelling for Kubernetes Environments
Anouar Jridi, Marouen Kachroudi, Marius Zaharia, Mohamed Farah
 2. Machine Learning Based-Proactive Caching for Cellular Networks
Nedra Amara
 3. Investigating the Transferability and Robustness of Adversarial Attacks Between Standard and Dilated CNN Architectures
Sachin Sharma, Jiho Noh, Michail Alexiou
 4. UTI-Dx-ViT: Enhancing UTI Diagnosis with YOLOv8 Segmentation and Vision Transformer-Based Classification
Amal Jlassi, Sami Hafsi, Walid Barhoumi
 5. Estimating Application Performance in Container-based Environments: A Cross-Domain Monitoring Approach
Marcus V. Diniz dos Reis, Rodrigo Moreira, Larissa F. Rodrigues Moreira, Flavio de Oliveira Silva
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AINA-S54: Smart Agriculture, Agrifood and Supply Chains I**Session Chair: Lluís Miquel Plà Aragonés, Universitat de Lleida Jaumell, Spain**

1. Weed Detection in Potato Fields: A Comparative Study of YOLOv8 and YOLOv9 with UAV Imagery
Rajni Goyal, Amar Nath, Utakarsh Niranjana, Rajdeep Niyogi
2. IoRT and AI-driven Solution for Optimal Herbicides Spray on Weeds in a Dynamic Agriculture Environment
Rajni Goyal, Shobha Kumari, Amar Nath, Gurjinder Kaur
3. Autonomous and Rapid Crop Residue Management Using AI and IoRT: From Data Acquisition to Classification
Amar Nath, Ayushi Ayushi, Gaurav Sharma, Rajdeep Niyogi
4. Internet of Things-Based Water Quality Monitoring System for Brackish Water Fishponds
Janella Rutte B. Caluag, Lawrence V. Dela Cruz, Charlene Faith L. Delfin, Tricia Mae L. Gervas, Krischelle A. Policarpio, Dennis Robles dela Cruz
5. AIOGO: A Modular Ontology for Managing Greenhouses
Christine Lahoud, Mariam Gawish, Hajer Bazaaoui, Ihab Jomaa

AINA-S55: Pervasive and Ubiquitous Computing**Session Chair: Tales Heimfarth, Universidade Federal de Lavras, Brazil**

1. Fault Diagnosis Method for Lithium-ion Batteries in Electric Vehicles Based on Generalized Dimensionless Indicator and Adaptive Threshold
Juan Wang, Ye Cao, Nan Zhao, Shuyao Hu, Minghua Wu, Yufei Zhang, Xu An Wang, Fan Zhang
2. A Graph-based Strategic Sensor Deployment Approach for k-coverage in WSN
Lakshmi Kanta Sau, Priyadarshi Mukherjee, Sasthi C. Ghosh
3. A Structure for Smart Device Applications for Large Scale Simulation
Soma Nakagawa, Satoshi Uda, Yoichi Shinoda
4. An Enhanced Formalism for Resource Management Policies Specification and Fast Evaluation in Pervasive Systems
David Beserra, Jean Araujo
5. PAS-MAC - A Pipelined Anycast Short-probing MAC protocol for IoT
Gabriel Augusto Lemos Silva, João Carlos Giacomini, Tales Heimfarth

AINA-S56: Data Mining, Big Data Analytics and Social Networks I**Session Chair: Alex Thomo, University of Victoria, Canada**

1. Enhanced Nighttime Pedestrian Detection Algorithm Utilizing YOLOv8
Juan Wang, Yv Pang, Shuyao Hu, Nan Zhao, Sheng Wang, Hao Yang, Jixiang Shao, Xu An Wang, Zizhen Zhang
2. SPARKLE: Structured Parsing for Arabic Resource Knowledge and Language Extraction
Fouad Al Tfaily, Hussein Hazimeh, Hassan Harb, Karl Daher, Omar Abou Khaled, Elena Mugellini, Ali Jaber, Ali El Takach
3. Combining Similarity-based Correlation and Hierarchical Ascending Clustering for Small Files Problem in HDFS
Hanene Chettaoui, Farah Hkiri
4. Gender and Race Bias in Consumer Product Recommendations by Large Language Models
Ke Xu, Shera Potka, Alex Thomo

AINA-S57: Theories and Intricacies of Information Security problems (INTRICATE-SEC-2025) I**Session Chair: Anne Kayem, University of Exeter, UK**

1. Enhancing Kubernetes Security: Comprehensive Strategies for a Robust Containerized Infrastructure
Sahar Ben Yaala, Leonel Feukouo Fosting, Ridha Bouallegue

2. SG-BC: Evaluating Latency Blockchain enabling SmartGrid
Imen Aouini
3. DDoS Attack Detection in Data Plane
Smriti Smriti, K Haribabu, Sanyam Garg
4. A Theoretical Framework for Decentralized Intrusion Detection in Smart Networks using Blockchain and Machine Learning
Moinul Alam, Mostafa Hasan, Arvil Nath Akash, Md Junayed Hossain, Ashrafur Islam, Sanzar Adnan Alam
5. A Layered Framework for Blockchain Security: Classification of Threats and the Quantum Computing Impact
Kaustubh Dwivedi, Ankit Agrawal, Ashutosh Bhatia, Kamlesh Tiwari
6. Hybrid deep learning Model-based Intrusion Detection System to improve Artificial Internet of Things against cyber attacks
Shayma Wail Nourildean, Wafa Mefteh, Ali Frihida

AINA-S58: Digital Humanities and Digital World (DUDW-2025) I

Session Chair: Alba Amato, University of Campania Luigi Vanvitelli, Italy

1. D4R: An Interactive and Visual Exploration of a 16th Century Corpus on Spanish Inquisition
Michel Boeglin, Elisabet Comelles, David Kahn, David Panzoli, Sascha Diwersy, Andrés Echevarria, Irene Castellón
2. HistoricO: An Ontology for Modeling Social Classes, Power Positions, Institutions, Events and Rituals in Historical Narratives
Alba Amato, Mariangela Graziano, Luigi Colucci Cante, Beniamino Di Martino, Angelo Di Falco
3. Augmented Reality in the Archaeological Museum "Padre A. G. Saggi" of Norma
Giuseppina Renda, Stefania Quilici Gigli, Antonio Coppa, Gaetano Giordano, Chiara Natale, Dario Branco, Salvatore Venticinqu

AINA-S59: Reliable Autonomics and Internet of Things (RA-IoT-2025)

Session Chair: Joseph Rafferty, Ulster University, UK

1. Prediction of Water Quality using Machine learning Models in IoT Environment
Marwa Faydi, Amira Zrelli, Tahar Ezzedine
2. The Simulation of a Service Orchestration Engine for the Smart City Internet of Things
Cathryn Peoples, Bibin Babu, Joseph Rafferty, Adrian Moore, Nektarios Georgalas
3. Autonomous management of IoT devices in smart homes using semi-Markov models
Dongwei Wang, Sally I McClean, Ian McChesney, Zeeshan Tariq
4. Security Focus Areas for Digital Twin Development Projects
Sergey Butakov

Coffee Break

15:30-16:00 (UTC+2) CEST Time Zone (Barcelona, Spain)

AINA-S60: Intelligent Computing and Machine Learning IX

Session Chair: Hajer Baazaoui Zghal, CY Cergy Paris University, France

1. Machine Learning-Driven Annotation for Healthcare Management
Mouncef Naji, Maroua Masmoudi, Hanae Baraka, Hajer Baazaoui Zghal
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2. Reinforcement Learning-Based Adaptive Modulation Systems
Nader Khedhri, Monia Najar
3. Traffic Classification Method of Power Information Communication Network Based on Multi-mode Competitive Feature Selection
Shanyi Xie, Congcong Zhan, Jun Zuo, Xingwang Li, Gang Zhou, Yan Li, Caiyan Nong
4. Optimized Hybrid Deep Learning Model for Accurate Classification of Alzheimer's Stages
Maysam Chaari, Yassine Ben Ayed

AINA-S61: Smart Agriculture, Agrifood and Supply Chains II

Session Chair: Lluís Miquel Plà Aragonés, Universitat de Lleida Jaumell, Spain

1. A BERT-Based Attention Model with BiLSTM for Aspect-Based Sentiment Analysis in Agricultural Datasets
Ameni Chamekh, Mariem Mahfoudh, Khouloud Boukadi, Walid Hamada
2. Local Model Checking on an IoT based System: Use Case of Cellular M2M in Agriculture
Sawsen Khelifa, Chiheb Ameer Abid, Asma Ben Letaïfa, Belhassen Zouari
3. Enhancing Digital Capabilities of Cold Chain in Small Food Factories using AIoT and IOTA Techniques
Hao-Hsiang Ku, Ching-Ho Chi
4. Evaluation of Feeding Robots' Efficiency for Pig Fattening
Lluís Miquel Plà Aragonés, Pol Llagostera Blasco, Pau Font Farré, Ijaz Ul Haq, Daniel Babot
5. Secure and Transparent Agri-Food Supply Chain Traceability with SSI and Blockchain-Enabled IoT
Jihene Khoualdi, Ilhem Abdelhédi, Hella Kaffel Ben Ayed, Donia Bensedrine

AINA-S62: Affective Computing and Collaborative Systems

Session Chair: Santi Caballe, Open University of Catalonia, Spain

1. Emotional Features in Speech: A Deep Scattering-Based Analysis
Kaouther Ezzameli, Hela Mahersia
2. VClipper: Moment Retrieval in Video Streams Using Zero-shot and Context-aware Foundational Models
Oriol Caravaca-Müller, Joan Llobera, Carles Ventura, Ismael Benito-Altamirano
3. Toward a Mixture of Ensemble Learning Method based Experts for Evaluating the Video of Streaming Quality of Experience
Radhia Elwerghemmi, Dorra Zaibi, Riadh Ksontini and Ridha Bouallegue
4. The Potential of Learning Analytics in Higher Education: A Student's Perspective
Montse Guitert, Teresa Romeu, Juan Pedro Cerro

AINA-S63: Data Mining, Big Data Analytics and Social Networks II

Session Chair: Roy Friedman, Technion, Israel

1. Performance Evaluation of Non-relational Databases in a Container-based Environment
Carlos Cavalcante, Igor Vanderlei, Jean Araujo
2. Geometric Sketch: The Inflatable-Shrinkable Sketch
Dvir Biton, Roy Friedman, Rana Shahout
3. Mean Tail: Top-K and Frequency Estimation with Fewer Counters and More Keys
Dvir Biton, Roy Friedman
4. Racist Aesthetics in Digital Extremist Communities
Victoria Ferro, Athus Cavalini, Thamyra Donadia, Fabio Goveia, Fabio Malini, Giovanni Comarella

AINA-S64: Theories and Intricacies of Information Security problems (INTRICATE-SEC-2025) II**Session Chair: Anne Kayem, University of Exeter, UK**

1. Layered Blockchain-Based Mobile CrowdSensing Architecture: Exploring Privacy and Scalability Challenges Across Layers
Ankit Agrawal, Aditi Bansal, Ashutosh Bhatia, Kamlesh Tiwari
2. Optimizing Supply Chain Coordination and Information Sharing using Blockchain Technology
Naser Abbas Hussein, Jihene khoualdi, Hella Kaffel Ben Ayed
3. Collusion Attacks in the Internet of Drones: A Fog Computing Approach for Detection and Prevention
Amine Hedfi, Aida Ben Chehida Douss, Ryma Abassi, Mohamed Aymen Chalouf, Omessaad Hamdi
4. CHC-DDoS: A DDoS attack Detection Scheme using Host-connection Graph Representation and GCN
Ahmed Saidane, EL kamel Ali, Habib Youssef
5. Model-Based Security Assurance Cases for Open and Adaptive Cyber-Physical Systems
Luis Felipe Almeida Nascimento, André de Oliveira, Regina Villela, Edelberto Franco Silva, Richard Hawkins, Ran Wei, Tim Kelly

AINA-S65: Digital Humanities and Digital World (DUDW-2025) II**Session Chair: Dario Branco, University of Campania Luigi Vanvitelli, Italy**

1. Indoor Positioning Techniques Applied to Collaborative AR
Dario Branco, Salvatore Venticinque, Alba Amato
2. Dynamic User Profiling for Personalized Tourism Recommendations Using Reinforcement Learning Models
Tommaso Ferrario, Elisabetta Fersini, Enza Messina, Gabriele Sormani
3. Blockchain Technologies for Digital Archives
Alba Amato, Giuseppe Cirillo
4. Leveraging Topic Models to Extract Tourist Preference from Points of Interest Descriptions
Elisabetta Fersini, Enza Messina, Francesca Pulerà

AINA-S66: Artificial Intelligence for Cybersecurity (AI-SEC-2025)**Session Chair: Andrea Augello, University of Palermo, Italy**

1. Towards a Lightweight Deep Learning-Based IDS for Automotive Networks (With a Focus On CAN)
Bahaa Eddine Ajaj, Natasha Alkhatib, Rami M Khoder
2. Evaluation of Selected Few-Shot Learning Methods in Network Intrusion Detection
Eryk Winiecki, Marek Pawlicki, Aleksandra Pawlicka, Rafal Kozik, Michal Choras
3. Using Ensembles of LLMs to Detect Phishing Emails
Aishah M Aseeri, Stephan Bohacek
4. A Novel Approach to Automated Cybersecurity Response for Critical Infrastructures Using Graph Neural Networks and Reinforcement Learning
Aws Jaber, Maria Christopoulou, Giordano Colo'
5. Annotated Dataset Creation for Fake News Detection on Online Social Networks
Farwa Batool, Giuseppe Lo Re, Marco Morana
6. Zero Day Attack Detection Using Bayesian Optimized Random Forest Zero-shot Machine Learning Model: A Design Science Research Methodology (DSRM)
Jovita Nsoh

AINA-2025 Session Schedule

Hybrid Meeting Schedule for AINA-2025, 9 April to 11 April, 2025

1 st day:	Room #1	Room #2	Room #3	Room #4	Room #5	Room #6	Room #7	Room #8								
Wednesday, 9 April, 2025	Meeting ID: 838 6099 1356	Meeting ID: 834 8594 3217	Meeting ID: 878 6499 3621	Meeting ID: 899 0642 8130	Meeting ID: 818 0892 8433	Meeting ID: 878 2203 3388	Meeting ID: 813 5963 8210	Meeting ID: 849 4810 8797								
Slot 1	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair								
09:00-10:00 UTC+2:CEST Time Zone (Barcelona, Spain)	AINA-2025 Keynote #1: Prof. Cecilio Angulo Meeting ID: 838 6099 1356															
10:00-10:30 UTC+2:CEST Time Zone (Barcelona, Spain)	Coffee Break															
Slot 2	AINA-S1	Kishochi Bhalla, India	AINA-S2	Masaakiwa Nishigaki, Japan	AINA-S3	Leonard Baroli, Japan	AINA-S4	Kazunori Ishida, Japan	AINA-S5	Ines Chini, Luxembourg	AINA-S6	Beniamino Di Martino, Italy	AINA-S7	Tomoya Enokido, Japan	AINA-S8	Makoto Ikeda, Japan
10:30-12:30 UTC+2:CEST Time Zone (Barcelona, Spain)	Lunch															
Slot 3	AINA-S9	Omar K. Hussain, Australia	AINA-S10	Arcangelo Castellano, Italy	AINA-S11	Leonard Baroli, Japan	AINA-S12	Winston K. G. Seah, New Zealand	AINA-S13	Tomoya Enokido, Japan	AINA-S14	Rocco Averna, Italy	AINA-S15	R. Mathiasudhan, India	AINA-S16	Evjola Spaha, Albania
13:30-14:00 UTC+2:CEST Time Zone (Barcelona, Spain)	Coffee Break															
Slot 4	AINA-S17	Farooq Khader Hussain, Australia	AINA-S18	Mitabadi Alamanatidis, USA	AINA-S19	Isaac Wongang, Canada	AINA-S20	Ashutosh Bhalla, India	AINA-S21	Nour El Madhoun, France	AINA-S22	Salvatore Venturino, Italy	AINA-S23	Leonard Baroli, Japan	AINA-S24	Leonardo Mostarda, Italy
15:00-21:00 UTC+2:CEST Time Zone (Barcelona, Spain)	Reception Party at Open University of Catalonia															
2 nd day:	Room #1	Room #2	Room #3	Room #4	Room #5	Room #6	Room #7	Room #8								
Thursday, 10 April, 2025	Meeting ID: 838 6099 1356	Meeting ID: 834 8594 3217	Meeting ID: 878 6499 3621	Meeting ID: 899 0642 8130	Meeting ID: 818 0892 8433	Meeting ID: 878 2203 3388	Meeting ID: 813 5963 8210	Meeting ID: 849 4810 8797								
Slot 1	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair								
09:00-10:00 UTC+2:CEST Time Zone (Barcelona, Spain)	AINA-2025 Keynote #2: Prof. Javier Lopez Meeting ID: 838 6099 1356															
10:00-10:30 UTC+2:CEST Time Zone (Barcelona, Spain)	Coffee Break															
Slot 2	AINA-S25	Fabrizio Khata, Spain	AINA-S26	Yasuo Michie Paruchuri, USA	AINA-S27	Fabrizio Di Oliveira Silva, Portugal	AINA-S28	Saouf Friauf, France	AINA-S29	Eurolio G.M. Peralta, Greece	AINA-S30	Salvatore D'Angelo, Italy	AINA-S31	Leonard Baroli, Japan	AINA-S32	Flora Amato, Italy
10:30-11:30 UTC+2:CEST Time Zone (Barcelona, Spain)	Lunch															
Slot 3	AINA-S32	Ajmal Durrani, USA	AINA-S33	Hiroaki Kikuchi, Japan	AINA-S34	Dilawar Durrani, Japan	AINA-S35	Maria A. R. Dantas, Brazil	AINA-S36	Chiara Pera, Italy	AINA-S37	Antonio Esposito, Italy	AINA-S38	Francesco Palmieri, Italy	AINA-S39	Flora Amato, Italy
13:30-14:00 UTC+2:CEST Time Zone (Barcelona, Spain)	Coffee Break															
Slot 4	AINA-S39	Wei Lu, USA	AINA-S40	Isaac Wongang, Canada	AINA-S41	Fabrizio Khata, Spain	AINA-S42	Alfredo Navarra, Italy	AINA-S43	Alfredo Castellano, Italy	AINA-S44	Beniamino Di Martino, Italy	AINA-S45	Gianni D'Angelo, Italy	AINA-S46	Flora Amato, Italy
15:00-21:00 UTC+2:CEST Time Zone (Barcelona, Spain)	Banquet Party at TBA															
3 rd day:	Room #1	Room #2	Room #3	Room #4	Room #5	Room #6	Room #7	Room #8								
Friday, 11 April, 2025	Meeting ID: 838 6099 1356	Meeting ID: 834 8594 3217	Meeting ID: 878 6499 3621	Meeting ID: 899 0642 8130	Meeting ID: 818 0892 8433	Meeting ID: 878 2203 3388	Meeting ID: 813 5963 8210	Meeting ID: 849 4810 8797								
Slot 1	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair	Session title	Session Chair								
09:00-10:00 UTC+2:CEST Time Zone (Barcelona, Spain)	AINA-2025 Keynote #3: Prof. Farooq Khader Hussain Meeting ID: 838 6099 1356															
10:00-10:30 UTC+2:CEST Time Zone (Barcelona, Spain)	Coffee Break															
Slot 2	AINA-S46	Makoto Ikeda, Japan	AINA-S47	Lidia D Ogialo, Poland	AINA-S48	Shizunori Nakamura, Japan	AINA-S49	Tomoya Enokido, Japan	AINA-S50	Fabrizio Khata, Spain	AINA-S51	Farooq Khader Hussain, Australia	AINA-S52	Flora Amato, Italy	AINA-S53	Flora Amato, Italy
10:30-12:30 UTC+2:CEST Time Zone (Barcelona, Spain)	Lunch															
Slot 3	AINA-S53	Michael Alexiou, USA	AINA-S54	Luis Miguel Pila Aragonés, Spain	AINA-S55	Takes Heimfarth, Brazil	AINA-S56	Alia Thoma, Canada	AINA-S57	Anne Kayem, UK	AINA-S58	Alia Amato, Italy	AINA-S59	Joseph Rafferty, UK	AINA-S60	Flora Amato, Italy
13:30-14:00 UTC+2:CEST Time Zone (Barcelona, Spain)	Coffee Break															
Slot 4	AINA-S60	Hajer Baakoud Zghal, France	AINA-S61	Luis Miguel Pila Aragonés, Spain	AINA-S62	Sami Caballé, Spain	AINA-S63	Roy Friedman, Israel	AINA-S64	Anne Kayem, UK	AINA-S65	Dario Branco, Italy	AINA-S66	Andrea Aquino, Italy	AINA-S67	Flora Amato, Italy