



**ICITEE**

THE 2ND INTERNATIONAL CONFERENCE ON INFORMATION  
TECHNOLOGIES AND EDUCATIONAL ENGINEERING



**FACULTY OF  
INFORMATION  
TECHNOLOGY**



# PROGRAM GUIDE

## ICITEE 23

The 2<sup>nd</sup> International Conference on Information Technologies and  
Educational Engineering

December 15-16, 2023

Tirana, Albania

Organized by:

*Faculty of Information Technology  
Polytechnic University of Tirana*

Supported by:



## **Friday, December 15, 2023**

*Location: Room 303, Faculty of Information Technology*

**11:30-12:00**    *Registration & Coffee*

**12:00-12:30**    *Opening Ceremony*

### **Welcoming speeches**

**Prof. Elinda Meçe**

*Dean of the Faculty of Information Technology  
ICITEE 23 Conference Chair*

**Prof. Andrea Maliqari**

*Rector of the Polytechnic University of Tirana*

**12:30-13:30**

### **Keynote I**

*“Non-Terrestrial Networks: a new role for Satellite Communications”*

**Prof. Luigi Boccia**, *Università della Calabria, Italy*

### **Keynote II**

**Prof.Asoc. Adrian Shehu**, *CEO TCN, Albania*

**13:30-15:00**    *Welcome Reception*

**15:00-16:30**    *Workshop: “The latest technology trends”*

*“Life in the Cloud”*

**Mr. Ardit Shehu**, *Raiffeisen Bank Albania*

*“Modernization of the IPTV television platform at One Albania operator”*

**Mr. Ilir Duka**, *CTO, ONE Albania*

*“Beyond Manual: Unleashing the power of Test Automation”*

**Mrs. Klaus Coka**, *Raiffeisen Bank Albania*

*“Powering the next-generation of data-driven business”*

**Mr. Florjan Çala**, *CDATA Software Albania*

**Saturday, December 16, 2023**

*Location: Faculty of Information Technology*

**09:00-09:30** *Registration*

**09:30-10:00**

**Keynote I**

*“Using Robust Optimization to design resilient optical wireless networks”*

**Prof. Dritan Naçe**, *Université de Technologie de Compiègne, France*

*Room:303*

**10:00-12:00** *Parallel Sessions I*

**ICITEE S1: Advancements in Artificial Intelligence in Albania and the Albanian Language**

**Chair: Dr. Nelda Kote**, *Polytechnic University of Tirana, Albania*

*Room: 303*

Adapting Handwritten Text Recognition to Albanian Language: Leveraging Synthetic Datasets and Pre-Trained Models

*Evis Trandafili and Stela Paturri*

A Comparative Analysis of Machine Learning and Deep Learning Methods for Sentiment Analysis in the Albanian Language

*Alba Haveriku, Sidorela Bejdo, Nelda Kote and Elinda Kajo Meçe*

Sentiment Analysis of Social Media Posts in Informal Albanian Language Using Artificial Intelligence Techniques

*Nelda Kote, Hakik Paci, Eda Graceni and Alba Haveriku*

Assessing AI Maturity, the precondition building the Path to Responsible AI Implementation in Albania

*Erjon Curraj*

Feature engineering for sentiment analysis on Albanian corpora

*Besjana Muraku, Nelda Kote and Elinda Kajo Meçe*

An agglomerative hierarchical clustering method for text in Albanian

*Luela Prifti, Denisa Salillari and Najada Firza*

Reforming Legalization Process: An AI-driven Model for Property Title Evaluation in Albania

*Erison Balashi, Vladi Koliçi, Ilir Shinko, Bexhet Kamo, Gani Demiraj*

## **ICITEE S2: Network Operation and Management**

**Chair: Prof. Elson Agastra, Polytechnic University of Tirana, Albania**

*Room: 302*

FMCW Radar based Monitoring of Distracted Pedestrians Gait with Machine Learning

*Antonio Nocera, Michela Raimondi, Gianluca Ciattaglia, Linda Senigagliesi and Ennio Gambi*

Design of an optical fiber distribution system based on Fiber to the home technology, FTTH.  
A real application case using COMSOF and QGIS

*Ornela Gjoni, Ilir Shinko, Bexhet Kamo and Vladi Kolic*

Empirical Evaluation of Local Distributed Algorithms for Task Allocation in Network of Nodes

*Dorian Minarolli*

VANET-Radar Integration: Challenges and strategies for issue mitigation

*Orjola Jaupi and Evjola Spaho*

Analysis and regulation of intermodal transportation networks affected by disruptive events

*Lediane Islamaj, Vladi Koliçi, Simona Sacone, Cecilia Pasquale and Endrit Lugji*

## **ICITEE S3: Insights into Artificial Intelligence Systems: Ethics, Emotions, and Practical Applications**

**Chair: Dr. Dorian Minarolli, Polytechnic University of Tirana, Albania**

*Room: 304*

Legal and Ethical Aspects of Artificial Intelligence: An Evaluation Based on Bibliometric Analysis

*Yusuf Kaçar, Halil İbrahim Cebeci and Emrah Aydemir*

Emotional Traces Behind the Videos: Analysis of YouTube Comments

*Okan Karakaya and Emrah Aydemir*

Predicting bachelor's students' academic performance with machine learning algorithms

*Aida Shasivari, Paola Shasivari and Aleksander Xhuvani*

Data Quality Analytics for Customer-Level Dataset

*Brunela Karamani*

The Role of Generative AI in 3D Modeling and Printing Efficiency

*Anduel Kuqi, Ambra Korra and Indrit Enesi*

Integrating Physics-Informed Machine Learning with Second-Order Discrete Traffic Models for Traffic State Estimation

*Kleona Binjaku, Elinda Kajo Meçe, Simona Sacone and Cecilia Pasquale*

Sign Language Recognition through Machine Learning Techniques

*Evis Trandafili, Hakik Paci and Egisa Fusha*

**12:00-12:30** *Coffee Break*

**12:30-14:00** *Parallel Sessions II*

**ICITEE S4: Innovations in Optimization: from Communication Networks to Transportation and Supply Chains**

**Chair: Dr. Ilir Shinko, Polytechnic University of Tirana, Albania**

*Room: 303*

Application of multiobjective evolutionary algorithms for solving the spectral and energy efficiency trade-off problem in Massive MIMO systems: A literature review

*Eni Haxhiraj, Elson Agastra and Bexhet Kamo*

A New Energetic Reasoning for the Cumulative Scheduling Problem

*Kristina Kumbria, Jacques Carlier, Antoine Jouglet and Abderrahim Sahli*

An approach to optimize the railway resource planning process in a microscopic scale

*Estia Maliqari, Dritan Nace, Antoine Jouglet, Giuliana Barbarino and Elinda Kajo Meçe*

Traffic Simulation-Based Optimization of the Tirana Roundabout: A Case Study

*Veranda Sylja and Aleksander Biberaj*

Optimizing Warehouse Storage: The Location Assignment Problem

*Ermal Belul, Dritan Naçe, Antoine Jouglet and Marwane Bouznif*

Forecasting Product Demand for Inventory Optimization in the Petroleum Supply Chain

*Ina Dervishi, Rexhina Hoxha, Ilir Shinko, Roberto Sacile and Enrico Zero*

**ICITEE S5: Software Engineering and Applications**

**Chair: Dr. Hakik Paci / Dr. Ina Papadhopulli, Polytechnic University of Tirana, Albania**

*Room: 302*

Online payments using paypal in e-commerce WEB applications, a practical implementation case.

*Bruna Biçaku, Ilir Shinko, Bexhet Kamo and Vladi Koliçi*

Building High-Performance ETL Systems Using Microservices and Distributed Messaging

*Ina Papadhopulli and Igli Balla*

Checking student attendance in classes using mobile devices

*Hakik Paci and Evis Trandafili*

Implementation of reflective programming in .NET

*Hakik Paci and Nelda Kote*

Analyzing the dynamics of ERP selection across diverse company profiles

*Ernest Shahini and Ana Ktona*

**ICITEE S6: Internet of Things and Engineering: From Home Automation to Sensing Technologies**

**Chair: Prof. Asoc. Evjola Spaho, Polytechnic University of Tirana, Albania**

*Room: 304*

Design and Implementation of a Smart Home Automation System based on remote control from Home Kit and Android.

*Erilda Muka, Elvis Avdyli and Gerti Mecaj*

A Comparative Analysis of Multi-Sensor Radar Integration for Human Activity Recognition

*Djazila Korti and Zohra Slimane*

Regenerative energy management-reuse algorithm in UPSsupplied systems

*Fatmir Basholli and Bexhet Kamo*

A personalized low cost solution for supervision and control of HVAC/r systems via Modbus protocol

*Jonadri Bundo, Genci Sharko, Denis Panxhi and Darjon Dhamo*

Real-Time Detection of Unusual Events in the Petrol Products Logistics

*Anjeza Hoxha, Kleona Binjaku, Elinda Kajo Meçe, Roberto Sacile and Enrico Zero*

Wearable sensors for cardiac disease monitoring using IoT

*Gledis Basha, Lorena Balliu and Elma Zana*

**14:00-15:00** *Lunch*

**15:00-15:30**

**Keynote II**

**Prof. Asoc. Igli Tafa, General Director and National Cyber Coordinator of AKCESK, Albania**

*Room:303*

**15:30-16:30** *Parallel Sessions III*

**ICITEE S7: Innovation Technology in Education**

**Chair: Prof. Aleksander Biberaj, Polytechnic University of Tirana, Albania**

*Room: 303*

Automatic Literature Review based on AI (OpenAI)

*Adrian Besimi, Nuhi Besimi and Xhemal Zenuni*

Ranking of Universities using Majority Judgment

*Genta Babasuli, Dritan Naçe, Ina Papadhopulli and Nelda Kote*

Penetration Rate and Application of IoT, IoE and Green Transformation in the ICT  
Curricula: Assessment of the Current Situation in Six Western Balkan Universities  
*Evjola Spaho, Enida Sheme and Aleksander Biberaj*

Teaching Microservice Architectures: An Experience Report  
*Klesti Hoxha*

## **ICITEE S8: Cyber Security, Privacy, and Cloud Computing**

**Chair: Prof. Asoc. Enida Sheme, Polytechnic University of Tirana, Albania**

*Room: 302*

Systematic Literature Review for Security in Cloud Computing  
*Anduena Dibra and Igli Tafa*

Quantum Computing: A Risk or Challenge to Modern Cryptographic Algorithms  
*Elior Vila*

Definition and implementation of the Static and Dynamic Application Security Testing  
Tools in web-based information systems applied to logistics  
*Endrit Lugji, Ilir Shinko, Roberto Sacile and Enrico Zero*

A Glimpse into Digital Hardware Design in the Era of Large Language Models: A simple  
microprocessor design example  
*Gani Demiraj, Ilir Shinko, Vladi Koliqi, Bexhet Kamo and Erison Ballasheni*

## **ICITEE S9: Computer Vision and Applications**

**Chair: Prof. Indrit Enesi, Polytechnic University of Tirana, Albania**

*Room: 304*

Efficiency and Performance Evaluation of Inception-V3 and Inception-ResNet-V2 in  
Image Classification  
*Ambra Korra, Anduel Kuqi and Indrit Enesi*

Enhancing disease detection through Machine Learning for imaging data analysis in the  
context of healthcare applications.  
*Lorena Balliu, Gledis Basha and Elma Zanj*

Capacitated Clustering Approaches in the Assignment of Service Stations to Multi-Depots  
*Ronaldo Rexhmati, Kleona Binjaku, Enida Sheme, Roberto Sacile and Enrico Zero*

Time Efficacy Analysis of Finger Vein Recognition using Local Line Binary Pattern  
*Blerina Zanj and Viryt Lasha*

**20:00-23:00** *Gala Dinner*

*Location: Hotel Xheko Imperial  
Rruga "Ibrahim Rugova" Nr.56/H2, 1019, Tirana, Albania*