



ICITEE

THE 2ND INTERNATIONAL CONFERENCE ON INFORMATION
TECHNOLOGIES AND EDUCATIONAL ENGINEERING



**FACULTY OF
INFORMATION
TECHNOLOGY**



PROGRAM GUIDE

ICITEE 23

The 2nd 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:



**Raiffeisen
Bank**



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 in Industry”*

“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 Ballasheni**, 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 Zanj

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 Koliçi, 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 Zanjaj

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

Time Efficacy Analysis of Finger Vein Recognition using Local Line Binary Pattern
Blerina Zanjaj and Virtyt Lesha

20:00-23:00 *Gala Dinner*

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