

2024 IEEE 18th International Conference on Application of Information and Communication Technologies (AICT 2024)

**Turin, Italy
25-27 September 2024**



**IEEE Catalog Number: CFP2456H-POD
ISBN: 979-8-3503-8754-4**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP2456H-POD
ISBN (Print-On-Demand):	979-8-3503-8754-4
ISBN (Online):	979-8-3503-8753-7
ISSN:	2378-8232

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Set Theory and Elementary Algebra in LEAN 4 Theorem Prover	1
<i>Yagub N. Aliyev</i>	
Do Teachers Possess the Essential Digital Literacy to Effectively Navigate Through the Digital Era?.....	7
<i>Sevda Küçük, Saadettin Ates, Ömer Koçak</i>	
Sustainable Cultural Tourism Strategy and Promotion: An ICT Management Platform	11
<i>Kashyap Raiyani, Shabnam Pasandideh, Sajib Ahmed, Pedro Pereira, João Martins</i>	
Data Engineering Roadmap for Implementing Business Intelligence in Higher Education	18
<i>Romeu Sequeira, Arsénio Reis, Frederico Branco, Paulo Alves</i>	
Analyzing the Effectiveness of Smartphone Applications on Disease Management and Healthcare Systems.....	24
<i>Rabei Raad Ali, Wisam Subhi Al-Dayyeni, Christy Atika Sari, Eko Hari Rachmawanto, Siti Salwani Binti Yaacob, Omar M. Jihad</i>	
AI English Conversation Coaching Platform in the Metaverse: Focused on Korean Users	31
<i>Jaesung Park, Seongeun Yang, Chaewon Yoon, Jongwook Si, Yuchul Jung, Sungyoung Kim</i>	
Leveraging Data Mining Techniques to Enhance Curriculum Content Quality	37
<i>Firudin T. Aghayev, Gulara A. Mammadova, Rena T. Malikova, Lala A. Zeynalova, Esmira R. Aleskerova</i>	
A Preliminary Study on Distance and Speed Estimation Using Event-Based Vision.....	42
<i>Leonard Haensel, Torsten Bertram</i>	
MINOS: A Tool to Analyze HTTP Requests for Compliance to GDPR.....	47
<i>Lorenzo Laudadio, Riccardo Coppola, Antonio Vetrò, Marco Torchiano, Juan Carlos De Martin</i>	
Analyzing Technical Debt Management in an Industrial Project: Diffuseness and Actual Remediation Time of SonarQube Issues.....	52
<i>Giovanni Garifo, Luca Maina, Antonio Vetrò, Marco Torchiano</i>	
Governmental Effectiveness in the Transition to a Circular Economy: Dynamic DEA Model.....	58
<i>Svetlana Ratner, Svetlana Balashova, Bella Gabrielyan</i>	
On the Soundness of a Language for Large and Distributed Graph Processing.....	64
<i>Alpha Mouhamadou Diop, Cheikh Ba</i>	
A Sparsifier Model for Efficient Information Retrieval	70
<i>Viacheslav Dobrynin, Mark Sherman, Roman Abramovich, Alexey Platonov</i>	
An Approach for Business Email Compromise Detection Using NLP and Deep Learning	74
<i>Rasim Alguliyev, Ramiz Aliguliyev, Lyudmila Sukhostat</i>	
Computer Networks Cybersecurity Monitoring Based on CNN-LSTM Model.....	80
<i>Rasim Alguliyev, Ramiz Shikhaliyev</i>	
Experimental Setup for Verifying the Funneling Illusion on the Upper Facial Region	86
<i>Ye-Ji Jun, Dong-Soo Choi</i>	

Implementing Industry 4.0 Tools for Enhancing Residential Energy Management: A Case Study of Kuwait	90
<i>Abdalrahman Alajmi, Nick Kelly</i>	
Towards Named Entity Disambiguation with Graph Embeddings	97
<i>Felice Paolo Colliani, Giuseppe Futia, Giovanni Garifo, Antonio Vetrò, Juan Carlos De Martin</i>	
Transforming Legal Documents into Knowledge Goldmines: Application on the Algerian Official Journal	103
<i>Hamouda Sidhoum Abdellah, Mataoui M'Hamed, Sebbak Faouzi, Ouazene Aymen, Hussine Fedoua, Amrani Mohamed Chakib, Boumediri Takieddine</i>	
A Lower-Limb Exoskeleton Control System Based on Brain-Computer Interface with Multiple Motor Imagery Segments Decoding	110
<i>Zitong Wan, Zheyu Yao, Yuting Zheng, Mengjie Huang, Rui Yang</i>	
Exploring the Potential Use of Generative AI in Software Engineering Education	115
<i>Mounika Yabaku, Nuno Pombo, Sofia Ouhbi</i>	
Opinion Score Distribution Prediction Via AI-Based Observers in Media Quality Assessment	122
<i>Lohic Fotio Tiotso, Antonio Servetti, Enrico Masala</i>	
Contextualized Word Embeddings in Azerbaijani Language	128
<i>Tural Alizada, Umid Suleymanov, Zaid Rustamov</i>	
Compact SAT-Based Encoding of Mining Minimal Non Redundant Association Rules	134
<i>Abdelhamid Boudane, Riyadh Ouzghara</i>	
Transfer Learning of Large Speech Models for Italian Speech Emotion Recognition	140
<i>Federico D'Asaro, Juan José Márquez Villacís, Giuseppe Rizzo</i>	
Fuzzy Inference System for Detection CT and X-Ray Image's Edges	146
<i>Shaima Ibraheem Jabbar, Abathar Qahtan Omran Aladi</i>	
Diabetes Detection Based on Iridology	150
<i>Farid Taghiyev, Ayyub Mammadli, Leyla Guliyeva, Wisam Subhi Al-Dayyeni</i>	
Deep Probability Segmentation: Are Segmentation Models Probability Estimators?	161
<i>Simone Fassio, Simone Monaco, Daniele Apiletti</i>	
Solar-Powered Automated Drone for Industrial Safety and Anomaly Detection	168
<i>Tamem Mahmoud Omar, Hasan Mohammed Alshehhi, Marwan Mohammed Alnauimi, Suood Abdulrahman Alblooshi, Amine El Moutaouakil</i>	
Breaking the Ice: Data-Driven Predictive Modeling for Rail Track Icing Events	174
<i>Lorenzo D'Amico, Cristian Rendina, Dario Salza, Claudio Rossi, Oreste Cattaneo</i>	
ByteReID: An Efficient Online Multi Camera Multi-Person Tracking System.....	180
<i>Stefano Bergia, Giuseppe Rizzo, Manuel Gaetani, Mario Chiesa, Fabrizio Dominici</i>	
Developing Automated Software for Improving Feedback Analysis and Self-Debriefing in High-Fidelity Medical Simulation	186
<i>Nazanin Sheykhmohammadi, Denis Zampunieris, Pascal Stammet, Christian Grévisse, Sandro Reis</i>	

A Preliminary Study of a Co-Embodiment Approach for Welding Training.....	192
<i>Federico Manuri, Letizia Sacco, Francesco De Pace, Andrea Sanna, Hannes Kaufmann</i>	
Anomaly Detection to Infer Context Changes in Temporal Data	198
<i>Anna Dalla Vecchia, Niccolò Marastoni, Elisa Quintarelli</i>	
A Time-Synchronized Framework for Bluetooth Low Energy Wireless Sensor Networks.....	204
<i>Andrea Pignata, Vittorio Fra, Enrico Macii, Gianvito Urgese</i>	
BONES: A Benchmark for Neural Estimation of Shapley Values.....	210
<i>Davide Napolitano, Luca Cagliero</i>	
Security Insights at a Glance: An Integrated Data Approach for Application Security	216
<i>Alexandre Penela, Bernardo Sequeira, Eduardo Piza, Maria Beatriz Piedade, Rosa Matias, Catarina I. Reis</i>	
Extract User-Generated Content from Spatial Data Provision Services	223
<i>Mauro Gambini, Sara Migliorini, Alberto Belussi</i>	
Large Language Models-Aided Literature Reviews: A Study on Few-Shot Relevance Classification	229
<i>Flavio Giobergia, Alkis Koudounas, Elena Baralis</i>	
Analysis of Stages and Principles of Frequency Regulation in Energy Systems.....	234
<i>Sakhavat Rafiyev, Burcu Ramazanli</i>	
Enhanced Document Retrieval with Topic Embeddings	239
<i>Jafar Isbarov, Kavsar Huseynova</i>	
A Hybrid Approach to Azerbaijani Lemmatization: Integrating Rule-Based Methods with ML PoS Tagging.....	244
<i>Feray Gulu-Zada, Fuad Fataliyev, Gunel Huseynova, Samir Rustamov</i>	
Deep Unlearning of Breast Cancer Histopathological Images for Enhanced Responsibility in Classification	249
<i>Laman Aliyeva, Nihat Abdullayev, Saida Zarbiyeva, Ismayil Huseynov, Umid Suleymanov</i>	
Enhancing Cross-Lingual Word Embeddings: Aligned Subword Vectors for Out-Of-Vocabulary Terms in fastText	255
<i>Claudio Savelli, Flavio Giobergia</i>	
A Benchmarking Study of Kolmogorov-Arnold Networks on Tabular Data.....	261
<i>Eleonora Poeta, Flavio Giobergia, Eliana Pastor, Tania Cerquitelli, Elena Baralis</i>	
Approach to Studying Information Dissemination in Social Networks with Simulation Tools	267
<i>Alexander Kolesnikov, Elena Zamyatina, Lyudmila Lyadova, Viacheslav Lanin</i>	
Enhancing Sales Prediction Accuracy Through Incorporation of Expert Knowledge as Constraints into the Model	273
<i>Ilknur Gur Nalcaci, Serhat Agit Satici, Fatih Alagoz, Bahadir Onay, Cuneyt Oksuz</i>	
Comparative Analysis: Violence Recognition from Videos Using Computer Vision.....	278
<i>Dursun Dashdamirov</i>	
FlowCasting: A Dynamic Machine Learning Based Dashboard for Bike-Sharing System Management	284
<i>Andrea Avignone, Davide Napolitano, Luca Cagliero, Silvia Chiusano</i>	

Graph-Based Visualization & Analysis of Azerbaijani Web.....	290
<i>Anar Shikhaliyev, Abzatdin Adamov</i>	
Survey of Machine Learning Applications in Wind Power Implementation: A Comprehensive View	296
<i>Khalid Mammadov, Ilhama Novruzova, Natavan Hasanova, Samir Mammadov</i>	

Author Index