

2023 International Conference on Networking and Advanced Systems (ICNAS 2023)

**Algiers, Algeria
21-23 October 2023**



**IEEE Catalog Number: CFP23U31-POD
ISBN: 979-8-3503-1918-7**

**Copyright © 2023 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:	CFP23U31-POD
ISBN (Print-On-Demand):	979-8-3503-1918-7
ISBN (Online):	979-8-3503-1917-0

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

Evaluating the effectiveness of machine learning models for classifying chemical inhibitors : A case study of aromatase inhibitors and Pubchem's molecular fingerprint descriptors.	1
<i>Ali Abdelkrim, Abdelkrim Bouramoul, Imene Zenbout and Said Brahim</i>	
A taxonomy of QKA protocols based on the BB84	8
<i>Youssef Achouri, Rima Djellab and Khaled Hamouid</i>	
FPGA Implementation of Real-Time Video Watermarking Prototype using PL-PS Embedded Processor over Network Communication.....	14
<i>Mohamed Salah Azzaz, Redouane Kaibou, Bachir Madani, Mohammed Arzazi and Karim Dahmane</i>	
Dynamic Transmission Power Adjustment for Enhanced Energy Efficiency and Extended Lifespan of Mobile Devices	20
<i>Messaoud Babaghayou, Noureddine Chaib and Nabila Labraoui</i>	
A Single-channel EEG-based discrimination of major depressive disorder with wavelets features and machine learning	26
<i>Seifeddine Babouri and Nabil Dib</i>	
Edge and Texture Analysis for Face Spoofing Detection	32
<i>Yahya-Zoubir Bahia, Fedila Meriem and Mokdad Fatiha</i>	
Thermal Sensation with Microheater for Virtual Reality Applications: Preliminary Results	38
<i>Yamna Bakha, Sidi Mohammed Merah, Samir Benbelkacem, Nadia Zenati-Henda and Mostefa Masmoudi</i>	
Enhancing Physical Rehabilitation Monitoring through Multi-View Fusion of Human Body Skeleton	43
<i>Katia Belgherbi, Nawel Moulfi, Kahina Amara, Mohamed Anane, Oualid Djekoune and Nadia Zenati</i>	
Optimal Path Selection and Producer Allocation for Energy Distribution in Energy Internet	49
<i>Lina Benchikh, Lemia Louail, Djamila Mehta and Assala Nacef</i>	
Predicting student exam scores: Exploring the most effective regression technique	55
<i>Fateh Benkhalfallah and Mohamed Ridda Laouar</i>	
Attitude Stabilization of a flexible satellite with Sloshing Phenomenon.....	64
<i>Jalal Eddine Benmansour, Rima Roubache and Boulanouar Khouane</i>	
Enhancing Lung Cancer Detection and Classification Using Machine Learning and Deep Learning Techniques: A Comparative Study.....	69
<i>Amira Bouamrane and Makhlouf Dourdour</i>	
A virtual reality-based serious game designed for personalized hand motor rehabilitation..	75
<i>Amal Bouatrous, Nadia Zenati, Abdelkrim Meziane and Chafiaa Hamitouche</i>	

A Graph ATtention Networks Model for Session-Based Recommender Systems	81
<i>Boudjemaa Boudaa and Hadil Touhami</i>	
Real-Time Human Action Representation Based on 2D Skeleton Joints	87
<i>Adil Bouguerra, Sofiane Mounine Hemam and Ouassila Hioual</i>	
Unleashing the Power of Process Mining for Discovering and Analyzing Ad Hoc Networks	94
<i>Selsabil Ines Bouhidel and Nabil Belala</i>	
YOLOv7-face: a real-time face detector	100
<i>Rabab Bousmaha, Sarah Laouedj, Lina Aggoune and Sidi Mohammed Benslimane</i>	
Development of a Multilingual Vocalization Methodology for Algerian SMS	106
<i>Dahou Brahim, Falek Leila and Lichouri Mohamed</i>	
Comparative Study on Early Stage Diabete Detection by Using Machine Learning Methods	112
<i>Dalila Cherifi, Seyyid Ahmed Djellouli, Hanane Riabi and Mohamed Hamadouche</i>	
A New Design of a Multi-link Quadrotor	118
<i>Ayoub Daadi, Yasser Bouzid, Oualid Araar, Saddam Hocine Derrouaoui, Lynda Chellal and Amina Belmouhoub</i>	
TwiTrace: a new approach of Contact Tracing based on Multilingual Tweets	124
<i>Faiza Deghmani and Kamel Boukhalifa</i>	
Exploring the Potential of Blockchain in Internet of Robotic Things: Advancements, Challenges, and Future Directions	130
<i>Abdessamed Echikr, Ali Yachir, Chaker Abdelaziz Kerrache and Zakaria Sahraoui</i>	
Optimal PID Control of a Novel Multicopter with Inclined Rotors and Spatial Configuration	136
<i>Mohamed Ghazali, Yasser Bouzid, Saddam Hocine Derrouaoui and Mahmoud Belhocine</i>	
Application of Deep Learning and Markov Chains Approaches based zero trust security for smart power grid systems	142
<i>Nousseiba Guergouri, Nabil Sahli, Mohamed Benmohammed and Lyes Khoukhi</i>	
Explainable Deep Learning based-system for Multilabel Classification of 12-lead ECG	148
<i>Yusra Chahinez Hadj Azzem and Fouzi Harrag</i>	
Area Coverage Aware Approach for Data Communication in UAVs Networks	154
<i>Aymen Hamani, Abderrahmane Meziane Cherif, Khedidja Medani and Saad Harous</i>	
A Multi-Agent System Based on Dynamic Load Balancing for Collaborative Intrusion Detection	161
<i>Nadia Hocine and Chihabeddine Zitouni</i>	
Robust Intrusion Detection for IoT Networks: an Integrated CNN-LSTM-GRU Approach.	167
<i>Amina Khacha, Rafika Saadouni, Yasmine Harbi, Chirihane Gherbi, Saad Harous and Zibouda Aliouat</i>	
Theory and Practice for Trajectory Tracking of Quadrotor UAV Via a Fifth Generation Sliding Mode Approach	173
<i>Omar Mechali, Ali Zakaria Messaoui, Abdelkader Senouci, Aimen Abdelhak Messaoui, Abdesslam Mechali and Jana Petru</i>	

UAV-based Search and Rescue System using a Probability Distribution Map	179
<i>Aimen Abdelhak Messaoui, Samir Hakem, Rabah Louali, Abdenour Amamra, Abdelkeim Nemra and Omar Mechali</i>	
Optimizing Bilateral Teleoperation Control Architectures: A Comparative Study under Constant and Variable Time Delays	185
<i>Nour Mitiche, Farid Ferguene and Adel Outayeb</i>	
Energy Efficient Bio-inspired Clustering in Flying Ad-hoc Network	191
<i>Assala Nacef, Khedidja Medani and Zibouda Aliouat</i>	
Listen First Broadcast Later for Interest Forwarding in Named Data Networks over LLNs	197
<i>Adel Salah Ould Khaoua, Fella Bey and Abdelmadjid Boukra</i>	
Constrained Complex System of Predictive Control.....	203
<i>Ammar Ramdani and Mohamed Traïche</i>	
SegFormer: Semantic Segmentation Based Transformers For Corrosion Detection	209
<i>Abid Safa, Amroune Mohamed, Bendib Issam and Haouam Mohamed-Yassine</i>	
6G-SECUREIDS: Blockchain-Enhanced Secure Knowledge Transfer for Distributed Intrusion Detection Systems in Advanced Networks.....	215
<i>Sabrina Sakraoui, Makhlouf Derdour and Ahmed Ahmim</i>	
Network Applications Observability on Hosts: A New SDN Privacy Issue	221
<i>Ishak Serrat, Tayeb Kenaza and Islam Debicha</i>	
Nonlinear PD control of Mobile Manipulator Base during Arm Manipulation	227
<i>Mohamed Zakaria Teghri, Farid Ferguene and Fatima Nouri</i>	
Machine Learning and Deep Learning Techniques for Alzheimer's Disease Prediction Using CSF and Plasma Biomarkers.....	233
<i>Ahmed Rafik Zouaoui, Heythem Bentahar, Mohamed Djeriuoi, Zakaria Mokadem and Houssam Eddine Bentahar</i>	