

2022 16th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS 2022)

**Dijon, France
19-21 October 2022**



**IEEE Catalog Number: CFP2295D-POD
ISBN: 978-1-6654-6496-3**

**Copyright © 2022 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:	CFP2295D-POD
ISBN (Print-On-Demand):	978-1-6654-6496-3
ISBN (Online):	978-1-6654-6495-6

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

2022 16th International Conference on Signal-Image Technology & Internet- Based Systems (SITIS) **SITIS 2022**

Table of Contents

Acknowledgment	xviii
Foreword	xix
Organizing Committee	xx
Program Committee	xxii
Keynotes	xxx

Track ISSA: Intelligent Systems, Services and Applications

Text2EL: Exploiting Unstructured Text for Event Log Enrichment	1
<i>Dakshi Tharanga Kapugama Geeganage (Queensland University of Technology, Australia), Moe Thandar Wynn (Queensland University of Technology, Australia), and Arthur H.M. ter Hofstede (Queensland University of Technology, Australia)</i>	
Answering an Amharic Language Semantic Question over Interlinked Data	9
<i>Gashaw Demlew (Jimma University, Ethiopia) and Fekade Getahun (Addis Ababa University, Ethiopia)</i>	
Query Management for a Decentralised Enterprise Knowledge Graph	17
<i>Bastien Vidé (Institut de Recherche en Informatique de Toulouse, France; Umlaut, France), Max Chevalier (Institut de Recherche en Informatique de Toulouse, France), and Franck Ravat (Institut de Recherche en Informatique de Toulouse, France)</i>	
Towards Interpretable Probabilistic Classification Models for Knowledge Graphs	25
<i>Nicola Fanizzi (Università degli studi di Bari Aldo Moro, Italy) and Claudia d'Amato (Università degli studi di Bari Aldo Moro, Italy)</i>	
A Corpus of Encoded Malware Byte Information as Images for Efficient Classification	32
<i>Ryan Frederick (Purdue University Northwest, USA), Joseph Shapiro (Purdue University Northwest, USA), and Ricardo A. Calix (Purdue University Northwest, USA)</i>	
Digital Health Data, a Way to Take Under Control the Quality During the Elaboration Processes	37
<i>Valerio Bellandi (Università degli Studi di Milano, Italy), Giacomo D'Andrea (Università degli Studi di Milano, Italy), Samira Maghool (Università degli Studi di Milano, Italy), and Stefano Siccardi (Consorzio Interuniversitario Nazionale per l'Informatica, Italy)</i>	

Distributed Gateway-Based Security Scheme for Guaranteeing LoRaWAN Networks Availability .	45
<i>Hassan N. Noura (University of Franche Comté, France), Ola Salman (AUB, Lebanon), Ali Chehab (AUB, Lebanon), and Raphael Couturier (University of Franche Comté, France)</i>	
Machine Learning for Physical Layer Security: Limitations, Challenges and Recommendation ...	53
<i>Reem Melki (AUB, Lebanon), Hassan N. Noura (University of Franche Comté), Ali Chehab (AUB, Lebanon, France), and Raphael Couturier (University of Franche Comté, France)</i>	
Building Modular Network Models Through the XMI	61
<i>Damien Fay (IDeAS INFOR, USA), Khaoula Kadri (SCM INFOR, Tunisia), Heni Masmoudi (SCM INFOR, Tunisia), Syrine Besbes (SCM INFOR, USA), and Jerry Bolton (SCM INFOR, UK)</i>	
Office Activity Recognition Using HTN Planning	70
<i>Ilche Georgievski (University of Stuttgart, Germany)</i>	
Implementing Passive Authentication with Enhanced Risk-Based Security	78
<i>Yoshio Kakizaki (Tokai University, Japan), Renon Doine (Tohto University, Japan), Kenta Kuwana (Tokyo Denki University, Japan), and Mikako Yoshida (Tohoku University Graduate School of Medicine, Japan)</i>	

Track SIVT: Signal Image and Vision Technologies

In-Pose Estimation of Covered and Uncovered Human Body from Thermal Camera Images using Multi-scale Stacked Hourglass (MSSHg) Network	84
<i>Sahereh Obeidavi (Chemnitz University of Technology, Germany), Mojtaba Gandomkar (Jundi-Shapur University of Technology, Iran), and Gangolf Hirtz (Technical University of Chemnitz, Germany)</i>	
A Shared Pose Regression Network for Pose Estimation of Objects from RGB Images	91
<i>Stefan Hein Bengtson (Aalborg University, Denmark), Hampus Åström (Lund University, Sweden), Thomas B. Moeslund (Aalborg University, Denmark), Elin A. Topp (Lund University, Sweden), and Volker Krueger (Lund University, Sweden)</i>	
Few-Shot Object Detection in Unseen Domains	98
<i>Karim Guirguis (Robert Bosch Corporate Research, Germany), George Eskandar (University Of Stuttgart, Germany), Matthias Kayser (Robert Bosch Corporate Research, Germany), Bin Yang (University Of Stuttgart, Germany), and Juergen Beyerer (Fraunhofer IOSB, Germany)</i>	
Improving Gesture Recognition with Object Tracking and Image Stabilization to Communicate with Industrial Cobots	108
<i>Victor Medina Heierle (Tree Technology S.A., Spain), Leire Varona Fontanal (Tree Technology S.A., Spain), and Víctor Fernández-Carbajales Cañete (Tree Technology S.A., Spain)</i>	
Neural Network Based Landing Assist using Remote Sensing Data	116
<i>Dheeraj Bharti (Indian Institute of Technology, Kanpur, India), Mangal Kothari (Indian Institute of Technology, Kanpur, India), and K S Venkatesh (Indian Institute of Technology, Kanpur, India)</i>	
Traffic Light Recognition with Prior Maps	121
<i>Yousef Magdy ElBon (German University in Cairo), Milad Michel Ghantous (German University in Cairo), and Youstina Samir Melek (German University in Cairo)</i>	

Star-Net: A Multi-branch Convolutional Network for Multiple Source Image Segmentation	127
<i>Giuseppe Placidi (University of L'Aquila, Italy), Luigi Cinque (Sapienza University of Rome, Italy), Michele Nappi (University of Salerno, Italy), Matteo Polsinelli (University of Salerno, Italy), Alessandro Sciarra (University Hospital, Germany), and Genoveffa Tortora (University of Salerno, Italy)</i>	
Hierarchical DNN-Based Image Segmentation Algorithm using Texton, Superpixels, and Layer-Adaptive Loss Functions	135
<i>Cheng-Hsuan Yu (Graduate Institute of Communication Engineering National Taiwan University, Taiwan) and Jian-Jiun Ding (Graduate Institute of Communication Engineering National Taiwan University, Taiwan)</i>	
Retinex by Autoencoders	140
<i>Claudio Pezzoni (Università degli Studi di Milano, Italy), Corrado Mio (Khalifa University of Science and Technology, UAE), Annalisa Barsotti (Università degli Studi di Milano, Italy), and Gabriele Gianini (Università degli Studi di Milano, Italy)</i>	
Transformer Based Image Dehazing	148
<i>Patricia L. Suárez (ESPOL Polytechnic University, Ecuador), Dario Carpio (ESPOL Polytechnic University, Ecuador), Angel D. Sappa (ESPOL Polytechnic University, Ecuador; Computer Vision Center, Spain), and Henry O. Velesaca (ESPOL Polytechnic University, Ecuador)</i>	
An Investigation of the Reconstruction Capacity of Stacked Convolutional Autoencoders for log-mel-Spectrograms	155
<i>Anastasia Natsiou (Technological University of Dublin, Ireland), Luca Longo (Technological University of Dublin, Ireland), and Seán O'Leary (Technological University of Dublin, Ireland)</i>	
Extraction of Rice Phenological Metrics using Temporally Correlated Multispectral Drone Imagery	163
<i>Dawood Wasif (National University of Sciences and Technology, Pakistan), Muhammad Qasim Khan (National University of Sciences and Technology, Pakistan), Ramesha Murtaza (National University of Sciences and Technology, Pakistan), Malik Zeeshan Ahmad (National University of Sciences and Technology, Pakistan), Zuhair Zafar (National University of Sciences and Technology, Pakistan), Muhammad Shahzad (National University of Sciences and Technology, Pakistan; Technical University of Munich, Germany), Karsten Berns (Technical University of Kaiserslautern, Germany), and Muhammad Moazam Fraz (National University of Sciences and Technology, Pakistan)</i>	
Photography Style Analysis using Convolutional Neural Networks	170
<i>Michael Zouros (University of Piraeus, Greece) and Theodoros Giannakopoulos (NCSR Demokritos, Greece)</i>	
Accurate Face Recognition on Highly Compressed Samples	177
<i>Amir Khan (Instituto de Microelectronica de Sevilla, Spain), Jorge Fernández-Berni (Instituto de Microelectronica de Sevilla, Spain), and Ricardo Carmona-Galán (Instituto de Microelectronica de Sevilla, Spain)</i>	
Boosting Masked Face Recognition with Multi-task ArcFace	184
<i>David Montero (Basque Country University), Marcos Nieto (Vicomtech), Peter Leskovsky (Vicomtech), and Naiara Aginako (Basque Country University)</i>	

A Comparative Study of Deep Learning and CA-Markov Methods for Land Use / Land Cover Change Prediction	190
<i>Waytehad Rose Moskolai (University of Burgundy Franche-comté, France), Wahabou Abdou (University of Burgundy Franche-comté, France), Albert Dipanda (University of Burgundy Franche-comté, France), and Dt Kolyang (University of Maroua, Cameroun)</i>	
Semantic Images Segmentation for Autonomous Driving using Self-Attention Knowledge Distillation	198
<i>Ayoub Karine (L@bISEN, Vision-AD, ISEN Yncréa Ouest, France), Thibault Napoléon (L@bISEN, Vision-AD, ISEN Yncréa Ouest, France), and Maher Jridi (L@bISEN, Vision-AD, ISEN Yncréa Ouest, France)</i>	
A Novel Lightweight and Robust Source-Channel Coding Solution for MIoT Communication Based on DL Denoising/Super Resolution Model	203
<i>Hassan Noura (University of Franche Comté, France), Joseph Azar (University of Franche Comté, France), Raphael Couturier (University of Franche Comté, France), and Ola Salman (AUB, Lebanon)</i>	
Semi-Supervised Principal Neighbourhood Aggregation Model for SAR Image Classification ..	211
<i>Mohib Ullah (Norwegian University of Science and Technology, Norway), Zolbayar Shagdar (Norwegian University of Science and Technology, Norway), Habib Ullah (Norwegian University of Life Sciences, Norway), and Faouzi Alaya Cheikh (Norwegian University of Science and Technology, Norway)</i>	
Per-Channel Image Super Resolution	218
<i>George Kamal (German University in Cairo, Egypt) and Milad Ghantous (German University in Cairo, Egypt)</i>	
Multimodal Knowledge Reasoning for Enhanced Visual Question Answering	224
<i>Afzaal Hussain (National University of Sciences and Technology (NUST), Pakistan), Ifrah Maqsood (National University of Sciences and Technology (NUST), Pakistan), Muhammad Shahzad (Technical University of Munich, Germany), and Muhammad Moazam Fraz (National University of Sciences and Technology (NUST), Pakistan)</i>	
Broadband Jamming Suppression at Subarray Level for Frequency Diverse Array Antenna	231
<i>Mohammed Ramadan (RISE - Research Institute of Sweden, Sweden) and Shahid Raza (RISE - Research Institute of Sweden, Sweden)</i>	
Fully Convolutional Fractional Scaling	238
<i>Michael Soloveitchik (The Hebrew University in Jerusalem, Israel) and Michael Werman (The Hebrew University in Jerusalem, Israel)</i>	

Joint Session: SIVT (Medical and Biomedical) and WS-WAI

BreastUS: Vision Transformer for Breast Cancer Classification using Breast Ultrasound Images	246
<i>Muhammad Saad (Islamia College University Peshawar, Pakistan), Mohib Ullah (Norwegian University of Science and Technology, Norway), Hina Afridi (Norwegian University of Science and Technology, Norway), Faouzi Alaya Cheikh (Norwegian University of Science and Technology, Norway), and Muhammad Sajjad (Norwegian University of Science and Technology, Norway)</i>	

Automatic Detection of Retinal Optic Disc using Vessel Inpainting	254
<i>Aziah Ali (Multimedia University, Malaysia), Mubdiul Hossain (Multimedia University, Malaysia), Noramiza Hashim (Multimedia University, Malaysia), Wan Noorshahida Mohd Isa (Multimedia University, Malaysia), Zarina Che Embi (Multimedia University, Malaysia), and Shahbe Mat Desa (Multimedia University, Malaysia)</i>	
Visual-Auditory Substitution Device for Indoor Navigation Based on Fast Visual Marker Detection	259
<i>Florian Scalvini (ImViA EA 7535 - Université de Bourgogne - Franche-Comté, France), Camille Bordeau (LEAD CNRS UMR 5022, Université de Bourgogne - Franche-Comté, France), Maxime Ambard (LEAD CNRS UMR 5022, Université de Bourgogne - Franche-Comté, France), Cyrille Migniot (ImViA EA 7535 - Université de Bourgogne - Franche-Comté, France), Stéphane Argon (LEAD CNRS UMR 5022, Université de Bourgogne - Franche-Comté, France), and Julien Dubois (ImViA EA 7535 - Université de Bourgogne - Franche-Comté, France)</i>	
An Approach to Real Time Indian Sign Language Recognition and Braille Script Translation ...	267
<i>Shubham Tiwari (Netaji Subhas University of Technology, India), Yash Sethia (Netaji Subhas University of Technology, India), Ashwani Tanwar (Netaji Subhas University of Technology, India), Harsh Kumar (Netaji Subhas University of Technology, India), and Rudresh Dwivedi (Netaji Subhas University of Technology, India)</i>	
Impact of Training Data on LMMSE Demosaicing for Colour-Polarization Filter Array	275
<i>Ronan Dumoulin (Université de Haute Alsace, France), Pierre-Jean Lapray (Université de Haute-Alsace, France), Jean-Baptiste Thomas (ImViA Laboratory, University of Burgundy, France), and Ivar Farup (Norwegian University of Science and Technology (NTNU), Norway)</i>	
Lighting Spectral Power Distribution Estimation with RGB Camera	281
<i>Dong Han (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien), Philippe Colantoni (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien), Éric Dinet (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien), and Alain Trémeau (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien)</i>	
Perceived Effects of Reflective Translucency in 3D Printing Filaments	289
<i>Jiří Filip (The Czech Academy of Sciences, Institute of Information Theory and Automation, Czech Republic), Martina Kolařová (The Czech Academy of Sciences, Institute of Information Theory and Automation, Czech Republic), and Radomír Vavra (The Czech Academy of Sciences, Institute of Information Theory and Automation, Czech Republic)</i>	

Joint Session: Workshops AI4H, KARE

Real Time eye-Blinks Detection from dry and Portable EEG Headset using Machine Learning. .	296
<i>Alexandre Houzé (ImViA, University of Burgundy, France) and Stéphane Binczak (ImViA, University of Burgundy, France)</i>	
Deep Metric Learning for Transparent Classification of Covid-19 X-Ray Images	300
<i>Salvatore Calderaro (Università degli studi di Palermo, Italy), Giosué Lo Bosco (Università degli studi di Palermo, Italy), Riccardo Rizzo (National Research Council of Italy, Italy), and Filippo Vella (National Research Council of Italy, Italy)</i>	

Predicting and Explaining Hearing Aid Usage using Encoder-Decoder with Attention Mechanism and SHAP	308
<i>Qiqi Su (City, University of London, UK) and Eleftheria Iliadou (National and Kapodistrian University, Greece)</i>	
Training Echo-State Networks for Big Data Prediction using Variation of Parameters	316
<i>Soukaina Seddik (Data Science and Competitive Intelligence Team, Applied Science Laboratory LSA, ENSAH, Abdelmalek Essaadi University, Morocco), Hayat Routaib (Data Science and Competitive Intelligence Team, Applied Science Laboratory LSA, ENSAH, Abdelmalek Essaadi University, Morocco), and Anass El Haddadi (Data Science and Competitive Intelligence Team, Applied Science Laboratory LSA, ENSAH, Abdelmalek Essaadi University, Morocco)</i>	
Case Study of Digital Innovation Process Improvement, using BPMN, Case-Based Reasoning, and Text Mining	322
<i>Maksym Proskurin (Université de Lorraine, France), Davy Monticolo (Université de Lorraine, France), Vincent Boly (Université de Lorraine, France), and Brunelle Marche (Université de Lorraine, France)</i>	

Workshop CAD4MED: Computer-Aided Diagnosis for Biomedical Applications

Detecting Spinal Alignment Through Depth Image	330
<i>Reina Ishibashi (Keio University, Japan), Hideto Kameshima (Space Vision Co., Ltd.), Yuji Nishio (Space Vision Co., Ltd.), Yukio Sato (Space Vision Co., Ltd.), Kota Watanabe (Keio University, Japan), and Yoshimitsu Aoki (Keio University, Japan)</i>	
Pycaret for the Evaluation of Classification Methods in Order to set up a Decision Making System for the Early Diagnosis of Schizophrenia by EEG	335
<i>Pelagie Flore Temgoua Nanfack (University of Buea, Cameroon), Elie Tagne Fute (University of Buea, University of Dschang, Cameroon), and Patrice Abiama Ele (Institute of Geological and Mining Research, Cameroon)</i>	
Tomographic Reconstruction from Sparse-View and Limited-Angle Data using a Generative Adversarial Network	341
<i>Ishak Ayad (ETIS (UMR 8051) and AGM (UMR 8088), CY Cergy Paris Université, ENSEA, CNRS, France), Cécilia Tarpau (Maxwell Institute for Mathematical Sciences and School of Mathematical and Computer Sciences, Heriot-Watt University, United Kingdom), Javier Cebeiro (Instituto de Tecnologías y Ciencias Aplicadas (ITECA), UNSAM-CONICET, Escuela de Ciencia y Tecnología, Centro de Matemática Aplicada (CEDEMA), Argentina), and Mai K. Nguyen-Vergier (ETIS (UMR 8051), CY Cergy Paris Université, ENSEA, CNRS, France)</i>	
Deep Learning on Knee CT Scans from Osteoarthritis Patients for Joint Space Assessment	348
<i>Zijie Shen (Université de Paris Cité Paris, France), Jean Denis Laredo (Université de Paris Cité Paris, France), Nicolas Lomenie (Université de Paris Cité Paris, France), and Christine Chappard (Université de Paris Cité Paris, France)</i>	

Real-Time Low Vision Simulation in Mixed Reality	354
<i>Valeria Acevedo (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien), Philippe Colantoni (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien), Eric Dinet (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien), and Alain Trémeau (Université de Lyon, Université Jean Monnet, Laboratoire Hubert Curien)</i>	

Joint Session: WS-CAD4MED and WS-IHEX

Self-Supervised Learning for Functional Brain Networks Identification in fMRI from Healthy to Unhealthy Patients	362
<i>Lukman E. Ismaila (Université d'Angers, France), Pejman Rasti (ESAIP, Université d'Angers, France), Jean-Michel Lemée (CHU d'Angers, France), and David Rousseau (Université d'Angers, France)</i>	

Generation of Synthetic CT with Deep Learning for Magnetic Resonance Guided Radiotherapy	368
<i>Armando Garcia Hernandez (Aix-Marseille University \ CNRS, Centrale Marseille, Institut Fresnel, France), Pierre Fau (Institut Paoli-Calmettes, France), Stanislas Rapacchi (Aix Marseille Univ, CNRS, CRMBM, France), Julien Wojak (Aix-Marseille University, CNRS, Centrale Marseille, Institut Fresnel, France), Hugues Mailleux (Institut Paoli-Calmettes, France), Mohamed Benkreira (Institut Paoli-Calmettes, France), and Mouloud Adel (Aix-Marseille University \ CNRS, Centrale Marseille, Institut Fresnel, France)</i>	

Mammogram Screening for Breast Density Classification using a Soft Voting Ensemble of Swin Transformers and ConvNext Models	372
<i>Muhammad Hussain (King Saud University, Saudi Arabia), Fahman Saeed (King Saud University, Saudi Arabia; Imam Mohammad Ibn Saud Islamic University (IMSIU), Saudi Arabia), Mariam Busaleh (King Saud University, Saudi Arabia), Hatim AboalSamh (King Saud University, Saudi Arabia), and Fazal-e Amin (King Saud University, Saudi Arabia)</i>	

COVID-19 and Viral Pneumonia Classification using Radiomic Features and Deep Learning ...	380
<i>Matheus de Freitas Oliveira Baffa (University of São Paulo, Brazil), Fernando Lucas Lima Martins (Federal Institute of Southeast of Minas Gerais, Brazil), Alessandra Martins Coelho (Federal Institute of Southeast of Minas Gerais, Brazil), and Joaquim Cezar Felipe (University of São Paulo, Brazil)</i>	

NUHEALTHSOFT: A Nutritional and Health Data Processing Software Tool from a Patient's Perspective.	386
<i>Dimitrios P. Panagoulas (University of Piraeus, Greece), Maria Virvou (University of Piraeus, Greece), and George A. Tsihrintzis (University of Piraeus, Greece)</i>	

MET-iquette: Enabling Virtual Agents to have a Social Compliant Behavior in the Metaverse ...	394
<i>Luigi Gatto (University of Palermo, Italy), Giuseppe Fulvio Gaglio (Institute for high performance computing and networking (ICAR) National Research Council, Italy), Agnese Augello (Institute for high performance computing and networking (ICAR) National Research Council, Italy), Giuseppe Caggianese (Institute for high performance computing and networking (ICAR) National Research Council, Italy), Luigi Gallo (Institute for high performance computing and networking (ICAR) National Research Council, Italy), and Marco La Cascia (University of Palermo, Italy)</i>	

Workshop IWAIP: Artificial Intelligent Approaches for Image Processing

The Study of Fashion Style Classification: Harajuku-Type Kawaii and Street Fashion	402
<i>Poonyawat Woottisart (King Mongkut's University of Technology Thonburi, Thailand), Peeraya Sripiat (Shibaura Institute of Technology, Japan), and Kejkaew Thanasuan (King Mongkut's University of Technology Thonburi, Thailand)</i>	
Protecting the Privacy of Face by De-Identification Pipeline Based on Deep Learning	409
<i>Anubha Parashar (Manipal University Jaipur, India), Apoorva Parashar (Mahindra Integrated Business Solutions, India), Imad Rida (Université de Technologie de Compiègne, France), and Vidyadhar Aski (Mahindra and Mahindra, India)</i>	
Application of Internet of Thing (IoT) for Precision Farming	417
<i>Apidat Songruk (King Mongkut's University of Technology Thonburi, Thailand), Somchai Arunrungrusmi (King Mongkut's University of Technology Thonburi, Thailand), Khanchai Tunlasakun (King Mongkut's University of Technology Thonburi, Thailand), Sirimonpak Suwannakhum (King Mongkut's University of Technology Thonburi, Thailand), Narong Mungkungline (King Mongkut's University of Technology Thonburi, Thailand), Wittawat Poonthong (King Mongkut's University of Technology Thonburi, Thailand), and Toshifumi Yuji (University of Miyazaki, Japan)</i>	

Joint Session: Workshop IWCVDL, HTBA

Ensemble Learning using Transformers and Convolutional Networks for Masked Face Recognition	421
<i>Mohammed R. Al-Sinan (King Fahd University of Petroleum & Minerals, Saudi Arabia), Aseel F. Haneef (King Fahd University of Petroleum and Minerals, Saudi Arabia), and Hamzah Luqman (King Fahd University of Petroleum and Minerals, Saudi Arabia)</i>	
DeePaste - Inpainting for Pasting	427
<i>Levi Kassel (The Hebrew University of Jerusalem, Israel) and Michael Werman (The Hebrew University of Jerusalem, Israel)</i>	
Lightweight Transformer with GRU Integrated Decoder for Image Captioning	434
<i>Dhruv Sharma (Delhi Technological University, India), Rishabh Dingliwal (Delhi Technological University, India), Chhavi Dhiman (Delhi Technological University, India), and Dinesh Kumar (Delhi Technological University, India)</i>	
Feature Selection and Multi-task Learning for Pedestrian Crossing Prediction	439
<i>Domínik Schörkhuber (TU Wien, Austria), Maximilian Pröll (TU Wien, Austria), and Margrit Gelautz (TU Wien, Austria)</i>	

Workshop MIBIS: Machine Learning and Internet of Things Based Intelligent Systems

Big Data and Intelligent Decision Making: Approaches and Applications	445
<i>Assiya Bakass (Cadi Ayyad University, Morocco), Tarik Agouti (Cadi Ayyad University, Morocco), Jihad Zahir (Cadi Ayyad University, Morocco), A. Aif-Mlouk (Cadi Ayyad University, Morocco), and Mohammed El Adnani (Cadi Ayyad University, Morocco)</i>	
A Conceptual Deep Learning Model for Real-Time Routing	453
<i>Abdelouafi Ikidid (University of Cadi Ayyad, Morocco), Abdelaziz El Fazziki (University of Cadi Ayyad, Morocco), Mohammed Sadgal (University of Cadi Ayyad, Morocco), Mohamed El Ghazouani (Chouaib Doukkali University, Morocco), and My Youssef Ichahane (Chouaib Doukkali University, Morocco)</i>	
Platform for the Social and Solidarity Economy Based on Islamic Finance-Derived Crowdfunding: A Blockchain Infrastructure	457
<i>Hasna Elalaoui Elabdallaoui (Cadi Ayyad University, Morocco), Abdelaziz Elfazziki (Cadi Ayyad University, Morocco), and Mohammed Sadgal (Cadi Ayyad University, Morocco)</i>	
Interaction Based Credibility Analysis of News on Facebook using Machine Learning Methodologies	465
<i>Sadia Sharmin (Bangladesh University of Engineering and Technology), Sudipa Saha (Bangladesh University of Engineering and Technology), Tasin Hoque (Bangladesh University of Engineering and Technology), and Khandaker Abrar Nadib (Bangladesh University of Engineering and Technology)</i>	

Joint Session: MIBIS Session 2 and WS IoTSeQ: IoT and Applications

An Architecture for Confidentiality Self-Management in the Internet of Things	472
<i>Abdelhamid Garah (University of Bourgogne Franche-Comté, France), Nader Mbarek (University of Bourgogne Franche-Comté, France), and Sergey Kirgizov (University of Bourgogne Franche-Comté, France)</i>	
An Optimised Indoor Deployment of Visual Sensor Networks	479
<i>Yves Faga (Université Bourgogne Franche-Comté, France), Wahabou Abdou (Université Bourgogne Franche-Comté, France), and Julien Dubois (Université Bourgogne Franche-Comté, France)</i>	
QoS Path Planning Strategy in Internet of Things	486
<i>Awa Marah Nana (University of Maroua, Cameroon), Arouna Ndam Njoya (University of Ngaoundéré, Cameroon), Ado Adamou Abba Ari (University of Maroua, Cameroon), Abdelhak Guerou (University of Versailles St-Quentin-en-Yvelines, France), Christopher Thron (Texas A&M University-Central Texas, USA), and Wahabou Abdou (University Bourgogne Franche-Comté, France)</i>	
Smart Irrigation Management System	494
<i>Bassem Sellami (University of Tunis El Manar, Tunisia), Abdelaziz El Fazziki (Cadi Ayyad University, Morocco), Mohamed Taha Bennani (University of Tunis El Manar, Tunisia), and Sadok Ben Yahia (Tallinn University of Technology, Estonia)</i>	

Practical Weed Detection Based on Data Fusion Techniques in Precision Agriculture	502
<i>Ali El Alaoui (Cadi Ayyad University, Morocco), Hajar Mousannif (Cadi Ayyad University, Morocco), Hassan Ayad (Cadi Ayyad University, Morocco), and Hayat Ait Dahmad (Cadi Ayyad University, Morocco)</i>	
Course Recommendation Model Based on Knowledge Graph Embedding	510
<i>Ismail Chetoui (Cadi Ayyad University Marrakech, Morocco), Essaid El Bachari (Cadi Ayyad University Marrakech, Morocco), and Mohamed El Adnani (Cadi Ayyad University Marrakech, Morocco)</i>	

Workshop NAMDAC: Numerical Algorithms and Methods for Data Analysis and Classification

Influence of age Group in the Spreading of Fake News: Contact Matrices in Social Media	515
<i>Angelamaria Cardone (University of Salerno, Italy), Patricia Díaz de Alba (University of Salerno, Italy), and Beatrice Paternoster (University of Salerno, Italy)</i>	
A Stochastic Nonmonotone Trust-Region Training Algorithm for Image Classification	522
<i>Mahsa Yousefi (University of Trieste, Italy) and Angeles Martinez Calomardo (University of Trieste, Italy)</i>	
An Accelerated Algorithm for ECG Signal Denoising	530
<i>Pasquale De Luca (Parthenope University of Naples, Italy), Ardelio Galletti (Parthenope University of Naples, Italy), and Livia Marcellino (Parthenope University of Naples, Italy)</i>	
Performance Evaluation of a Many/Multi-core Implementation for Signal Filtering Problem	535
<i>Vincenzo D'Alò (Parthenope University of Naples, Italy) and Pasquale De Luca (Parthenope University of Naples, Italy)</i>	

Workshop PRELUDE: Pervasive Sensing and Multimedia Understanding

Prior Case Retrieval for the Court of Cassation of Turkey	539
<i>Ceyhan Emre Öztürk (Bilkent University, Turkey; ASELSAN Research Center, Turkey), Ömer Köksal (ASELSAN Research Center, Turkey), S. Baris Özçelik (Faculty of Law, Bilkent University, Turkey), and Aykut Koç (Bilkent University, Turkey; National Magnetic Resonance Research Center (UMRAM), Turkey)</i>	
Tile Selection-Based H.265/HEVC Coding	545
<i>Hakkı Burak Çardak (Istanbul Technical University, Turkey), Levent Çarkacıoğlu (ASELSAN Inc., Turkey), and Muhammed Oğuzhan Külekci (Istanbul Technical University, Turkey)</i>	

An Intelligent Platform of Services Based on Multimedia Understanding and Telehealth for Supporting the Management of SARS-CoV-2 Multi-pathological Patients	553
--	-----

Giacomo Ignesti (Institute of Information Science and Technologies, National Research Council of Italy, Italy), Antonio Bruno (Institute of Information Science and Technologies, National Research Council of Italy, Italy), Chara Deri (Institute of Clinical Physiology, National Research Council of Italy, Italy), Gennaro D'Angelo (Institute of Clinical Physiology, National Research Council of Italy, Italy), Luca Bastiani (Institute of Clinical Physiology, National Research Council of Italy, Italy), Lorenza Pratali (Institute of Clinical Physiology, National Research Council of Italy, Italy), Silvia Memmini (Local Healthcare Company of North West Tuscany, Italy), Davide Cicalini (Local Healthcare Company of North West Tuscany, Italy), Alessandro Dini (Local Healthcare Company of North West Tuscany, Italy), Giulio Galesi (Institute of Information Science and Technologies, National Research Council of Italy, Italy), Francesca Pardini (Institute of Information Science and Technologies, National Research Council of Italy, Italy), Marco Tampucci (Institute of Information Science and Technologies, National Research Council of Italy, Italy), Antonio Benassi (Institute of Information Science and Technologies, National Research Council of Italy, Italy), Ovidio Salvetti (Institute of Information Science and Technologies, National Research Council of Italy, Italy), Davide Moroni (Institute of Information Science and Technologies, National Research Council of Italy, Italy), and Massimo Martinelli (Institute of Information Science and Technologies, National Research Council of Italy, Italy)

Towards Multi-camera System for the Evaluation of Motorcycle Driving Test	561
---	-----

Giuseppe Riccardo Leone (National Research Council of Italy - Institute of Information Science and Technology, Italy), Marco Righi (National Research Council of Italy - Institute of Information Science and Technology, Italy), Davide Moroni (National Research Council of Italy - Institute of Information Science and Technology, Italy), and Francesco Paolucci (Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT), Italy)

A User-Friendly AIoT-Based Crop Recommendation System (UACR): Concept and Architecture ...	569
--	-----

Dalhatu Muhammed (Institut Supérieur d'Electronique de Paris (ISEP), France), Ehsan Ahvar (ESIEA Graduate Engineering School, LDR research Lab Paris, France), Shohreh Ahvar (Institut Supérieur d'Electronique de Paris (ISEP), France), and Maria Trocan (Institut Supérieur d'Electronique de Paris (ISEP), France)

Workshop QUAMUS: Quality of Multimedia Services

QoE Estimation of WebRTC-Based Audiovisual Conversations from Facial Expressions	577
--	-----

Gülraziye Bingöl (DIEE, University of Cagliari, Italy), Simone Porcu (DIEE, University of Cagliari, Italy; CNIT, University of Cagliari, Italy), Alessandro Floris (DIEE, University of Cagliari, Italy; CNIT, University of Cagliari, Italy), and Luigi Atzori (DIEE, University of Cagliari, Italy; CNIT, University of Cagliari, Italy)

CB-FL: Cluster-Based Federated Learning Applied to Quality of Experience Modelling	585
<i>Simone Porcu (DIEE, University of Cagliari, Italy; CNIT, University of Cagliari, Italy), Alessandro Floris (DIEE, University of Cagliari, Italy; CNIT, University of Cagliari, Italy), and Luigi Atzori (DIEE, University of Cagliari, Italy; CNIT, University of Cagliari, Italy)</i>	
Cognitive-Bias-Induced Differences in the Perceived Video Quality of Rugged and Conventional Smartphones	592
<i>Fanni Geyer (Budapest University of Technology and Economics, Hungary), Vince A. Szakal (Budapest University of Technology and Economics, Hungary), Peter A. Kara (Budapest University of Technology and Economics, Hungary; Kingston University London, UK), and Aniko Simon (Sigma Technology, Hungary)</i>	
The Effect of Angular Resolution and 3D Rendering on the Perceived Quality of the Industrial use Cases of Light Field Visualization	600
<i>Peter A. Kara (Budapest University of Technology and Economics, Hungary; Kingston University, UK), Mary Guindy (Holografika, Hungary; Pazmany Peter Catholic University, Hungary), Qiu Xinyu (Budapest University of Technology and Economics, Hungary), Vince A. Szakal (Budapest University of Technology and Economics, Hungary), Tibor Balogh (Holografika, Hungary), and Aniko Simon (Sigma Technology, Hungary)</i>	
Towards Better Quality of Experience in HTTP Adaptive Streaming	608
<i>Babak Taraghi (Institute of Information Technology (ITEC), Alpen-Adria-Universitat Klagenfurt, Austria), Selina Zoë Haack (Institute of Information Technology (ITEC), Alpen-Adria-Universitat Klagenfurt, Austria), and Christian Timmerer (Institute of Information Technology (ITEC), Alpen-Adria-Universitat Klagenfurt, Austria)</i>	
3D Point Cloud Quality Assessment Method using Mahalanobis Distance	616
<i>Abdelouahed Laazoufi (Mohammed V University in Rabat, Morocco), Mohammed El Hassouni (FLSH, Mohammed V University in Rabat, Morocco), and Hocine Cherifi (University of Burgundy, France)</i>	

Workshop SIPAR: Signal Image Processing and Autonomous Robots

Artificial Intelligence and Industrial Robot	622
<i>Gurjeet Singh (Amritsar Group of Colleges, India), Vijay Kumar Banga (Amritsar Group of Colleges, India), and Thaveesak Yingthawornsuk (King Mongkut's University of Technology Thonburi, Thailand)</i>	
Kinect-Based Data Processing Noncontact Robotic Arm Control System	626
<i>Xu Cheng (Toyo University, Japan) and Tadahiko Kimoto (Toyo University, Japan)</i>	
A Study on Design and Creative for Interactive Media and using M-Learning to mix- Media on Cloud Technology: "How to Understand and use Herbs Properly"	634
<i>Chudanat Sudthongkhong (King Mongkut's University Technology Thonburi Bangkok, Thailand)</i>	
Modeling and Inverse Kinematics of Kuka Manipulator	639
<i>Ashwani Kumar (ECE, Punjabi University GKC, India), V.K. Banga (ACET, India), D. Kumar (BCET, India), and T. Yingthawornsuk (Media Technology Program, KMUT Thonburi, Thailand)</i>	
Using Double Deep Q-Learning to Learn Attitude Control of Fixed-Wing Aircraft	646
<i>David J. Richter (Purdue University Northwest, USA) and Ricardo A. Calix (Purdue University Northwest, USA)</i>	

Author Index 653