ISCV22

FINAL PROGRAM

THE 5TH

2022

INTERNATIONAL

CONFERENCE

The Fifth edition of the International
Conference on Intelligent Systems and
Computer Vision (ISCV 2022)

MAY 18-19-20, 2022, FEZ-MOROCCO

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Royaume du Maroc

About ISCV 2022

The Fifth edition of the International Conference on Intelligent Systems and Computer Vision (ISCV 2022) provides a forum and an excellent venue for researchers, academic faculty, students, industry leaders, and others in the fields of Intelligent Systems and Computer Vision to present and publish their research results and approaches.

This edition is a succession of four successful editions 2015, 2017, 2018 and 2020. The ISCV is already indexed by Scimago with an impact factor.

The ISCV2022 conference seeks original and high quality papers in the fields of Intelligent Systems and Information Management, Computer Vision and Image Understanding and applications of technologies in various fields.

Conference Proceedings Citation Index:

All accepted and presented papers will be published in the conference proceedings and indexed by IEEE Xplore Digital Library and Scopus.

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List of Topics

The ISCV'2022 conference seeks original and high quality papers in the two major areas and their applications; the **Intelligent Systems** and **Computer Vision.** Relevant topics include, but are not limited to:

Intelligent Systems and Information Management

- Machine learning
- Cognitive Learning
- Semantic computing
- Information Retrieval
- Big Data Analytics
- Data Mining, Knowledge Representation, Discovery and Management
- Deep learning
- Intelligent Decision Making and Multi Agent Systems
- Service Oriented Architecture and Business Process Management
- Fuzzy Techniques and Systems

Computer Vision and Image Understanding

- Intelligent video analytics
- Image/video processing
- Multimedia analysis, indexing and retrieval
- Vision for graphics
- Activity and event analysis
- Scene understanding
- Stereo and multiple view geometry
- 3D sensors: depth sensors, ToF, Kinect
- Gesture and action recognition
- Facial expression recognition
- Depth processing, analysis and recognition
- Biometric systems

Tools and applications

- Intelligent Web-based Systems
- Biomedical image analysis
- Health and Medecine
- Cultural heritage
- Intelligent transportation systems
- Education and e-learning
- Intelligent control and embedded systems
- Smart grids

Wednesday 18 May, 2022

09:15 - 10:15	**Opening Ceremony** **Google meeting Link: https://meet.google.com/igr-wzvb-pkc**
10:15 - 11:15	**Keynote Speech** **Title: *Service Provisioning at the Edge: Challenges and Opportunities*** Professor Zakaria MAAMAR Zayed University, Dubai, UAE **Google meeting Link: https://meet.google.com/igr-wzvb-pkc** Session chair: Sanaa Faquir
	Break
11:30 - 12:45 *Parallel sessions*	**Session 1: Deep Learning 1** Zoom Link: https://us02web.zoom.us/j/84403660038 Session chairs: J. BOUMHIDI, H. RAMADAN, I. EL AZAMI
	1. Diab Abuaiadah, Alexander Switzer, Michael Bosu and Yun Liu; Automatic counting of chickens in confined area using the LCFCN algorithm 2. Bilal Hassan and Ebroul Izquierdo; OneDetect: A Federated Learning Architecture for Global Soft Biometrics Prediction. 3. Lina Nicolaieff, Mohamed Mehdi Kandi, Younes Zegaoui and Christophe Bortolaso; Intelligent Document Processing with Small and Relevant Training Dataset. 4. Abdelmajid El Alami, Abderrahim Mesbah, Nadia Berrahou, Aissam Berrahou and Hassan Qjidaa; Quaternion Discrete Racah Moments Convolutional Neural Network for Color Face Recognition.

Session 2: Machine Learning 1

Zoom Link: https://us02web.zoom.us/j/83606271593

Session chairs: M.A. MAHRAZ, Y. OUBENAALLA, H. SILKAN

1. Yiwei Xia, Jun Ma, Chuyue Yu, Xunhuan Ren, Viktar Yurevich Tsviatkou and Anatoliy Antonovich Boriskevich; Recognition System Of Human Activities Based On Time-Frequency Features Of Accelerometer Data

2. Hanae Aoulad Ali, Mohamed Chrayah, Abdelhamid Bouzidi, Nabil Ourdani and Taha El Alami; A Comparative Evaluation use Bagging and Boosting Ensemble Classifiers

3. Mohammed Oughanem, Samira Bounid and Salman Bourkadi; Advanced Financial Data Processing and Labeling Methods for Machine Learning.

4. Mouhssine El Atillah, Khalid El Fazazy and Jamal Riffi; Recognition of Arabic digits using a convolutional neural network.

5. Younes Manzali and Mohamed El Far. A new decision tree pre-pruning method based on nodes probabilities.

Break

Keynote Speech

Title: *Deep learning with autoencoders and generative models*

Professor Abdessamad BEN HAMZA

Concordia University, Montreal, Canada

Zoom Link: **https://us02web.zoom.us/j/84403660038**

Session chair: Mohamed Adnane MAHRAZ

14:45
-
15:45

Break

16:00 - 17:45	**Session 3: Text Mining and Applications 1**
	Zoom Link: https://us02web.zoom.us/j/84403660038
	Session chairs: E. NFAOUI, N. EN-NAHNAHI, I. EL BATTEOUI
Parallel sessions	1. Salehah Omar, Juhaida Abu Bakar, Maslinda Mohd Nadzir, Nor Hazlyna Harun and Nooraini Yusoff; Malay lexical simplification model for non-native speakers.
	2. Hanane Grissette and El Habib Nfaoui; Do Patients Tend to Find Positive or Negative Feedback on Social Networks? A Study of the Main Aspects of Modelling Patient Understanding Based on Emotional Variants.
	3. Mohamed Zouitni, Alami Hamza, Said Lafkiar, Nabil Burmani, Mohammed Taleb and Noureddine En Nahnahi; Machine Learning Based Methods for Arabic Duplicate Question Detection
	4. Anoual El Kah and Imad Zeroual; Is Arabic text categorization a solved task?
	5. Nabil Burmani, Hamza Alami, Said Lafkiar, Mohamed Zouitni, Mohammed Taleb and Noureddine En Nahnahi; Graph based method for Arabic text summarization.
	Session 4: Intelligent Transport System
	Zoom Link: https://us02web.zoom.us/j/83606271593
	Session chairs: H. TAIRI, A. BOUHOUTE, A. YAHYAOUY
	1. Jun Ma, Chuyue Yu, Yiwei Xia, Xunhuan Ren, Viktar Yurevich Tsviatkou and Boriskevich Anatoliy Antonovich. Framework for Estimating Distance and Detecting Object on Mono-camera.
	2. Amine Kherraki, Muaz Maqbool and Rajae El Ouazzani. Robust Traffic Signs Classification using Deep Convolutional Neural Network.
	3. Anas Charroud, Ali Yahyaouy, Karim El Moutaouakil and Uche Onyekpe. Self-driving Vehicle Localisation and Mapping based on Fuzzy K-means Clustering : A Non-semantic Approach.
	4. Zakaria Benyahia, Mostafa Hefnawi, Mohammed Aboulfatah, Elhassane Abdelmounim and Taoufik Gadi. SqueezeNet-Based Range, Angle, and Doppler Estimation for Automotive MIMO Radar Systems.
	5. Imad El Mallahi, Asmae Dlia, Jamal Riffi, Hamid Tairi and Mohammed Adnane Mahraz. Prediction of Traffic Accidents using Random Forest Model.
	6. Hicham Hihi and Amine El Azrak. Robust Controller for Switching Linear Systems A Switched Bond Graph Approach.

Thursday 19 May, 2022

09:30 - 10:45 *Parallel sessions*	**Session 5: Deep Learning 2** Zoom Link: https://us02web.zoom.us/j/84403660038 Session chairs: A. AZOUGH, A. TAIME, J. RIFFI

1. Amine Kheldouni and Jaouad Boumhidi. A Study of Bidirectional Encoder Representations from Transformers for Sequential Recommendations.

2. Ghizlane Hnini, Jamal Riffi, Mohamed Adnane Mahraz, Ali Yahyaouy and Hamid Tairi. Spam image detection based on convolutional block attention module.

3. Marem H. Abdulabas and Noor D. Al-Shakarchy. Face information forensics analysis based on facial aging: A Survey.

4. El Hadi Moulay Lhabib, Nasri M'Barek, Farhaoui Youssef and Ellaoui Ahmad. Application of the deep learning approach for identification and face recognition in real-time video.

5. Omar Aitoulghazi, Ahmad Jaafari and Asmaa Mourhir. DarSpeech: An Automatic Speech Recognition System for the Moroccan Dialect.

6. Anis Ammar, Amani Chebbah, Hana Ben Fredj and Chokri Souani. Comparative Study of latest CNN based Optical Flow Estimation.

	Session 6: Machine Learning 2 Zoom Link: https://us02web.zoom.us/j/83606271593 Session chairs: S. FAQUIR, K. EL FAZAZY, A. KHAMJANE

1. Zaynabe Ragala, Asmaa Retbi and Samir Bennani. MTTR Prediction of railway rolling stock using regression algorithms

2. Sabri Abdelouahed, Cherrate Meryem, Ali Yahyaouy and Aarab Abdellah. Moroccan sign language recognition based on machine learning

3. Abdelaaziz Hessane, Ahmed El Youssefi, Yousef Farhaoui and Badraddine Aghoutane. Toward a Stage-wise Classification of Date

	Palm White Scale Disease using Features Extraction and Machine Learning Techniques.
	4. Kawtar Najmani, Lahbib Ajallouda, El Habib Ben Lahmar, Sael Nawal and Zellou Ahmed. Offline and Online Evaluation for Recommender Systems.
	5. Marwa Kebir and Kais Ouni. Perspectives Of Classical Methods Of Face Recognition.

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11:00 - 12:30 *Parallel sessions*	**Session 7: Text Mining and Applications 2** Zoom Link: https://us02web.zoom.us/j/84403660038 Session chairs: C. LOQMAN, H. SATORI, K. EL FAHSSI
	1. Sylia Amarouche, Sabrina Mostefai, Fatiha Amirouche and Said Talbi. New approach of smoothing to extend language model in Lucene.
	2. Dounia Rahhali, Noureddine En-Nahnahi and Yassine Khaider. Exploring text representation impact on K-means based arabic text documents clustering.
	3. Mohamed El Boujnouni. A study and identification of COVID-19 viruses using N-grams with Naïve Bayes, K-Nearest Neighbors, Artificial Neural Networks, Decision tree and Support Vector Machine.
	4. Bouchra El Idrissi, Karim Doumi and Chadia Tetou. On The Formalization of The TOGAF Content MetaModel Using Ontologies.
	5. Mohammed Taleb, Hamza Alami, Nabil Burmani, Mohamed Zouitni, Said Lafkiar and Noureddine En Nahnahi. Detection of toxicity in social media based on Natural Language Processing methods.
	Session 8: Image Processing and Analytics Zoom Link: https://us02web.zoom.us/j/83606271593 Session chairs: A. AARAB, M. CHRAYAH, M. A. SABRI
	1. Ouchker Rabab, Tahiri Mohamed Amine, Ahmed Bencherqui, Hicham Amakdouf, Qjidaa Hassan and Ouazzani Jamil Mohammed.

	Efficient localization and reconstruction of 3D objects using the new hybrid squire moment.
	2. Amiera Syazlin Md Azhar, Nor Hazlyna Harun, Nooraini Yusoff, Mohamad Ghozali Hassan and Beng Chu Kua. Image Enhancement on Underwater Images for Protozoan White Spot Fish Disease Detection.
	3. Tahiri Mohamed Amine, Bencherqui Ahmed, Karmouni Hicham, Sayyouri Mhamed, Qjidaa Hassan and Ouazzani Jamil Mohamed. Optimal 3D object reconstruction and classification by separable moments via the Firefly Algorithm.
	4. Sabeeh-Abdul Rehman, Zoe Jeffrey, Yichuang Sun and Oluyomi Simpson. SASHA: A Shift-Add Segmented Hybrid Approximated Multiplier for Image Processing.
	5. Hanae Mahmoudi, Hiba Ramadan, Jamal Riffi and Hamid Tairi. Iconic registration based on the local dissimilarity card.
	6. Jiyuan Hu, Tao Wang and Shiqiang Zhu. VMM: Viewpoint-based Memory Mechanism for Object Detection of Moving Sensors.

Break

15:00 - 16:00	**Keynote Speech**
	Title: *Improving human health: Challenges and Methodology for controlling thermal doses during Cancer therapeutic treatment*
	Professor Ahmed LAKHSSASSI
	University of Quebec in Outaouais, Canada
	Zoom Link: **https://us02web.zoom.us/j/84403660038**
	Session chair: My Abdelouahed SABRI

Break

16:15 - 17:45	**Session 9: Reinforcement Learning and Optimization**
	Zoom Link: https://us02web.zoom.us/j/84403660038
	Session chairs: K. EL MOUTAOUAKIL, D. KIOUACH, B. AKSASSE
Parallel sessions	1. Chaymae Chouiekh, Ali Yahyaouy, Abedellah Aarab and Abdelouahed Sabri. Road Traffic: Deep Q-learning Agent Control Traffic lights at an intersection.
	2. El Mehdi Ben Laoula, Omar Elfahim, Mohamed Youssfi and Omar Bouattane. Drone path optimization in complex environment based on Q-learning algorithm.
	3. Omar Elfahim, El Mehdi Ben Laoula, Mohamed Youssfi, Oussama Barakat and Mohamed Mestari. Deep Reinforcement Learning Approach for Emergency Response Management.
	4. Ali Tarraq, Faissal Elmariami, Abdelaziz Belfqih, Touria Haidi, Naima Agouzoul and Rabiaa Gadal. Metaheuristics Applied to Multiple DG Allocation in Radial Distribution Network: A comparative study.
	5. Abdellah Ahourag, Karim El Moutaouakil, Saliha Chellak and Hicham Baizri. Multiobjectives optimization to optimal Moroccan diet using genetic algorithm.
	6. Imad El Hajjami and Bachir Benhala. Simulation Experiments of Different Metaheuristics Algorithm using Benchmark Functions: Performance Study.
	Session 10: Fuzzy and Control Systems
	Zoom Link: https://us02web.zoom.us/j/83606271593
	Session chairs: I. BOUMHIDI, N. CHAIBI, B. BOUKILI
	1. Hamza Es-Sarraj, Ayoub El Bakri, Ismail Boumhidi and Rim Mrani Alaoui. FSMC for PWM rotor side converter in DFIG-based wind turbine system.
	2. Hafid Oubouaddi, Adil Brouri and Abdelmalek Ouannou. Speed control of switched reluctance machine using fuzzy controller and neural network.
	3. Driss El-Jimi, Noreddine Chaibi, Ismail Boumhidi, Mohammed Charqi and Ghizlane El Khaloufi. Admissibility Analysis of T-S Fuzzy singular system with time varying-delay.

4. Mohamed Kmich, Hicham Karmouni, Inssaf Harrade, Achraf Daoui and Mhamed Sayyouri. Image-Based Visual Servoing Techniques for Robot Control.

5. Zaidan Didi and Ikram El Azami. Monitoring Photovoltaic Panels Using the ESP32 Microcontroller via low-power Bluetooth Communication.

6. Jawad Abdouni, Tarik Jarou, Abderrahim Waga, Sofia El Idrissi, Meryam El Mahri and Ihssane Sefrioui. A new sampling strategy to improve the performance of mobile robot path planning algorithms.

Session 11: Healthcare and Medical Data Analytics
Zoom Link:
https://us06web.zoom.us/j/83690969204?pwd=SFNyZWEwcHhmeTEv QzVmWTFienJEQT09
Session chairs: H. QJIDAA, N. AHERRAHROU, F. EL HAOUSSI

1. Ghizlane El Khaloufi, Noreddine Chaibi, Sadek Belamfedel Alaoui, Driss El-Jimi and Ismail Boumhidi. Design of Observer for Cardiovascular Anomalies Detection: an LMI approach.

2. Mohamed Sraitih and Younes Jabrane. A survey of deep learning approaches for classifying ECG heartbeat arrhythmias.

3. Khalil Bouramtane, Said Kharraja and Omar Elbeqqali. A Decision-Making System for emergency service design and management during pandemic COVID-19

4. Kaouthar Touchanti, Moulhime El Bekkali and Imad Ezzazi. A 2-stages feature selection framework for colon cancer classification using SVM.

5. Alaa Jamal and Ashwan A. Abdulmunem. Bone age assessment using deep learning architecture: A Survey.

6. Khaoula Mkhayar, Souad Elkhattabi and Ossama Daoui. In silico molecular investigations of derived cyclohexane-1,3-dione compounds as potential inhibitors of protein tyrosine kinase C-met: 2D QSAR, molecular docking and ADMET.

Friday 20 May, 2022

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<tr><td rowspan="1">09:15
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09:45</td><td>

Keynote Speech

Title: *A Bridge between Computer Vision and Natural Language Processing: Automatic Image Captioning*

Professor Oussalah Mourad

University of Oulu. Finland

Zoom Link: **https://us02web.zoom.us/j/84403660038**

Session chair: Yahyaouy Ali

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<tr><td>09:45
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11:00

Parallel sessions</td><td>

Session 12: Smart Enterprise and Financial Data Analytics
Zoom Link: https://us02web.zoom.us/j/84403660038
Session chairs: K. SATORI, A. EL ABDERRAHMANI, A. ANNICH

1. Yahya Hanine, Mohamed El Moktar Malick, Mohamed Tkiouat, Younes Lahrichi and Youssef Lamrani Alaoui. A New Financial Group Lending Based on Smart Contracts: An Agent-based Simulation
2. Nabil Ourdani and Mohamed Chrayah. Big Data and public finance sector
3. Youness Jouilil and Driss Mentagui. An ARIMA Model for Modeling and Forecasting the Dynamic of Univariate Time Series : The case of Moroccan Inflation Rate.
4. Mourad Zbakh, Noura Aknin and Mohamed Chrayah. Towards a new method for classifying employee performance using machine learning algorithms
5. Imane Mjimer, Es-Saadia Aoula and El Hassan Achouyab. Using Support Vector Regression to Predict the Overall Equipment Effectiveness Indicator
6. Meryeme El Yadari, Ali Yahyaouy, Khalid El Fazazy, Stéphane Le Masson and Hamid Gualous. Placement methods of Virtual Machines in servers.

Session 13: E-Learning
Zoom Link: https://us02web.zoom.us/j/83606271593
Chairs: B. AGHOUTANE, A. JEGHAL, M. ZOUITEN, A. MOUMEN.

1. Taleb Mahdi and Pheniqi Youssef. IT Agility and Moroccan HEI's Innovation Performance: The Moderating Role of IT Ambidexterity

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</table>

	2. Mohamed Timmi, Loubna Laaouina, Adil Jeghal, Said El Garouani and Ali Yahyaouy. Learning analytics: a review of the literature Title
	3. Youssra Bellarhmouch, Adil Jeghal, Nadia Benjelloun and Hamid Tairi. Overview of personalization approaches in MOOCs
	4. Youssef Filali, Hasnae El Khoukhi, My Abdelouahed Sabri and Abdellah Aarab. Analysis and Classification of skin cancer Based on Deep Learning approach
	5. Abdelwahab El Azzouzi, Fatiha Kaddari and Abdelrhani Elachqar. Physics mathematization: Teachers observations on the integration of ICT.
11:00 - 12:30	**Closure** **Zoom Link: https://us02web.zoom.us/j/84403660038**

Please note: **The used time zone is UTC + 1.**

Keynotes ISCV 2022

Professor Zakaria Maamar

Title: Service Provisioning at the Edge: Challenges and Opportunities

Professor in the College of Technological Innovation at Zayed University, Dubai, United Arab Emirates. His research interests include service computing, cloud/edge computing, and lately Internet of (cognitive) Things.

Professor Abdessamad Ben Hamza

Title: Deep learning with autoencoders and generative models

Professor and Director of the Concordia Institute for Information Systems Engineering at Concordia University, Montreal, Canada. He received his Ph.D. degree in Electrical and Computer Engineering from North Carolina State University, USA.

Professor Ahmed LAKHSSASSI

Title: Improving human health: Challenges and Methodology for controlling thermal doses during Cancer therapeutic treatment.

Responsible of the LIMA laboratory CANADA, received the B.Ing. and M.Sc.A in electrical engineering from Université du Québec (UQTR), Québec, Canada in 1988 and 1990 respectively.

Professor Oussalah Mourad

Title: A Bridge between Computer Vision and Natural Language Processing: Automatic Image Captioning-

Dr. Mourad Oussalah is a Research Professor in University of Oulu, Faculty of Information Technology and Electrical Engineering, Centre for Machine Vision and Signal Analysis, where he leads the Social Mining Research Group.