The 14th International Conference on
SIGNAL IMAGE TECHNOLOGY AND INTERNET BASED SYSTEMS

SITIS 2018
26-29 November 2018
Hotel Reina Isabel & Spa ****
Las Palmas de Gran Canaria
Spain

UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA

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SITIS 2018

For their invaluable contributions, our gratitude to:

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	*University of Las Palmas de Gran Canaria, Spain*
 	*Institute of High Performance Computing and Networking, National Research Council, Italy*
	*Università di Milano Italy*
	*Laboratoire LE2I, Dijon, France*
	*SIGSMM (Special Interest Group on Semantic Multimedia Management)*
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SITIS 2018
The 14th International Conference on Signal Image Technology & Internet Based Systems

November 26 – 29, 2018
Hotel Reina Isabel
Las palmas de Gran Canaria, Spain

Foreword

The 14th International Conference On Signal-Image Technology & Internet–Based Systems SITIS 2018 includes three tracks, namely SIVT (Signal & Image and Vision Technology), I-WeCA (Intelligent Web Computing and Application), and LHNA (Heterogeneous Large Networks and their Applications). SIVT focuses on recent developments in digital signal processing and pays particular attention to evolutions in signal processing, image analysis, vision, coding & authentication, and retrieval techniques. I-WeCA focuses on emerging concepts, architectures, protocols, and methodologies for both information management on the Web and the Internet of Things technologies that connect unlimited numbers of smart objects to make our environment more interactive. LHNA aims at promoting original research works covering emerging and novel concepts, technologies and applications for categories related to large and heterogeneous networks. In addition to the main tracks, twelve workshops covering a wide range of related topics are held in conjunction with the conference, namely:

- *Computational Intelligence Techniques for Industrial and Medical Applications (CITIMA)*
- *Color and Multispectral Imaging (COMI)*
- *Distributed, Autonomic and Robust Wireless Networks (DARWiN)*
- *Human Tracking and Behavior Analysis (HTBA)*
- *Artificial Intelligent Approaches for Image Processing (IWAIIP)*
- *Knowledge Acquisition, Reuse and Evaluation (KARE)*
- *Multimedia Information Retrieval and Applications (MIRA)*
- *Numerical Algorithms and Methods for Data Analysis and Classification (NAMDAC)*
- *Open Business Intelligence Systems (OBIS)*
- *Quality of Multimedia Services (QUAMUS)*
- *Ubiquitous implicit BIOmetrics and health signals monitoring for person-centric applications (UBIO)*
- *Visions on Internet of Cultural Things and Applications (VICTA)*

About 200 original submissions were received from around the world and a peer review process was carried out by each track and workshop. The acceptance decision was taken based on the 3 reviewing reports available for each paper, by taking into account their relevance to track or workshop topics, scientific correctness and clarity of presentation. As a result, 107 papers are included in the Technical Program and in the conference proceedings. Besides the above 107 contributions, the Technical Program also includes three invited lectures given by Andrea Cavallaro (Queen Mary University of London, UK), Marco Gori (University of Siena, Italy) and Ernestina Menasalvas (Universidad Politecnica de Madrid, Spain).
Our gratitude also goes to our academic sponsor institutions for their cooperation, support and assistance: University of Las Palmas de Gran Canaria, Spain, University of Bourgogne, University of Milan, "LE2I (Laboratoire Electronique, Image et Informatique)" research group at the University of Bourgogne, ICAR (Institute of High Performance Computing and Networking) of the National Research Council of Italy.

Last, but definitely not the least, we thank the authors for submitting and trusting their work to the conference.
We hope the scientific program of SITIS 2018 will satisfy your expectations and also hope that you will find time to discover and appreciate Las Palmas de Gran Canaria.

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SITIS 2018
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SITIS 2018
Keynotes

Mining Electronic Health Records: Challenges and Impact

Prof. Ernestina Menasalvas

Department of Computer Systems Languages and Sw Engeneering,
Universidad Politecnica de Madrid, Spain

Abstract: Big data applications in the Healthcare Sector indicate a high potential for improving the overall efficiency and quality of care delivery. In the health care sector though, big data analytics has still to address several technical requirements being unstructured data analysis one of them. Unstructured data represents a powerful untapped resource—one that has the potential to provide deeper insights into data and ultimately help drive competitive advantage. In this talk, some of the most common challenges of processing such data in order to extract useful knowledge will be analyzed. In particular, we will deal with the following challenges: i) clinical narratives preprocessing using NLP, ii) name entity recognition, iii) negation detection, iv) detection of events. In the talk we will focus on a real use case in which we are working in the frame of a European project called IASIS. In fact, we will analyze the challenges of analyzing reports and notes of patients suffering from cancer in order to extract patterns (survival, treatment, antecedents ...) that can help physicians to get insights for better management of the disease.

Biography: Ernestina Menasalvas is a Professor at the Department of Computer Science of Universidad Politécnica de Madrid (UPM). She studied Computer Science and she has a PhD in Computer Science. She leads the MIDAS "Data Mining and data simulation group" at the Center of Biotechnology in UPM and she is databases and data mining professor at UPM. Her research activities are in various aspects of data mining project development and in the last few years her research has focused on data analysis in the medical field specifically on extracting patterns from clinical notes. She has participated in more than 30 projects related to extracting knowledge from datasets (H2020, FP7, EIT-Health ...). She has published more than 40 papers in journals including "Data and Knowledge Engineering Journal", "Physics Reports", "Information Sciences", "Expert Systems with Applications", "Journal of Medical Systems", "International Journal of Intelligent Data Analysis", and "Computer and Programs methods in Biomedicince".

A Constrained-Based Approach to Machine Learning

Prof. Marco Gori

Department of Information Engineering and Mathematics,
University of Siena, Italy

Abstract: In this talk, I propose a unified view of machine learning that relies on modeling the environment as an appropriate collection of constraints that the agent is expected to satisfy. Nearly every task, which has been faced in machine learning can be modeled under this mathematical framework. Linear and linear threshold machines, neural networks, and kernel machines are mostly regarded as adaptive models that need to softly-satisfy a set of point- wise constraints corresponding to the training set. The classic risk, in both the functional and empirical forms, can be regarded as a penalty function to be minimized in a soft-constrained system. Unsupervised learning can be given a similar formulation, where the penalty function somewhat offers an interpretation of the data probability distribution. While regarding symbolic knowledge bases as a collection of constraints, I draw a path towards a deep integration with machine learning that relies on the idea of adopting multivalued logic formalisms, like in fuzzy systems. A number of case studies are discussed to facilitate the acquisition of the theory.

Biography: Marco Gori received the Ph.D. degree in 1990 from Università di Bologna, Italy, working partly at the School of Computer Science (McGill University, Montreal). In 1992, he became an Associate Professor of Computer Science at Università di Firenze and, in November 1995, he joined the Università di Siena, where he is currently full professor of computer science. His main interests are in machine learning with applications to

pattern recognition, Web mining, and game playing. He is especially interested in bridging logic and learning and in the connections between symbolic and sub-symbolic representation of information.
He was the leader of the WebCrow project for automatic solving of crosswords, that outperformed human competitors in an official competition which took place during the ECAI- 06 conference. As a follow up of this grand challenge he founded QuestIt, a spin-off company of the University of Siena, working in the field of question-answering. He is co-author of "Web Dragons: Inside the myths of search engines technologies," Morgan Kauffman (Elsevier), 2006, and "Machine Learning: A Constrained-Based Approach," Morgan Kauffman (Elsevier), 2018.

Dr. Gori serves (has served) as an Associate Editor of a number of technical journals related to his areas of expertise, he has been the recipient of best paper awards, and keynote speakers in a number of international conferences. He was the Chairman of the Italian Chapter of the IEEE Computational Intelligence Society, and the President of the Italian Association for Artificial Intelligence.
He is a fellow of the IEEE, ECCAI, IAPR. He is in the list of top Italian scientists kept by the VIA-Academy (http://www.topitalianscientists.org/top_italian_scientists.aspx).

Audio-visual learning and processing for body cameras

Prof. Andrea Cavallaro

Centre for Intelligent Sensing Director, School of Elec. Eng and Computer Science, Queen Mary University of London, UK

Abstract: Body cameras capture user-centred data that can be used to analyse a dynamic scene, to recognize interactions and to classify physical activities. A body camera is equipped with multiple sensors such as microphones and inertial measurement units, in addition to the image. However, despite this richness in sensing modalities, the analysis of data from a wearable camera is particularly challenging due to unconventional mounting and capturing conditions, rapid changes in camera pose, self- occlusions, background noise and motion blur. In this talk, I will present the main challenges for learning, classification and processing with body-camera signals and show how multi-modality can help address these challenges. In particular, I will discuss action recognition and audio-visual person re-identification as specific application examples. I will also cover considerations about privacy and how to use machine learning to design privacy-preserving services and applications.

Biography: Andrea Cavallaro is Professor of Multimedia Signal Processing and the founding Director of the Centre for Intelligent Sensing at Queen Mary University of London, UK. He received his Ph.D. in Electrical Engineering from the Swiss Federal Institute of Technology (EPFL), Lausanne, in 2002. He was a Research Fellow with British Telecommunications (BT) in 20 04/2005 and was awarded the Royal Academy of Engineering teaching Prize in 2007; three student paper awards on target tracking and perceptually sensitive coding at IEEE ICASSP in 2005, 2007 and 2009; and the best paper award at IEEE AVSS 2009. Prof. Cavallaro is Senior Area Editor for the IEEE Transactions on Image Processing; and Associate Editor for the IEEE Transactions on Circuits and Systems for Video Technology and IEEE Multimedia. He is a past Area Editor for the IEEE Signal Processing Magazine (2012-2014) and past Associate Editor for the IEEE Transactions on Image Processing (2011-2015), IEEE Transactions on Signal Processing (2009-2011), IEEE Transactions on Multimedia (2009-2010) and IEEE Signal Processing Magazine (2008-2011). He is vice chair of the IEEE Signal Processing Society, Image, Video, and Multidimensional Signal Processing Technical Committee and an elected member of the IEEE Video Signal Processing and Communication Technical Committee. He is a past elected member of the IEEE Multimedia Signal Processing Technical Committee and of the IEEE Signal Processing Society, Image, Video, and Multidimensional Signal Processing Technical Committee, and chair of its Awards committee. Prof. Cavallaro has published over 230 journal and conference papers, one monograph on Video tracking (2011, Wiley) and three edited books: Multi-camera networks (2009, Elsevier); Analysis, retrieval and delivery of multimedia content (2012, Springer); and Intelligent multimedia surveillance (2013, Springer).

Conference events

Monday November 26, 2018

Opening ceremony (09:00 – 09:30)

Keynote 1 (09:30 – 10:30)
by Dr. Ernestina Menasalvas

Welcome reception (19:00 – 20:00)

Tuesday November 27, 2018

Keynote 2 (09:00 – 10:00)
by Dr. Marco Gori

Wednesday November 28, 2018

Keynote 3 (09:00 – 10:00)
by Dr. Andrea Cavallaro

Banquet (20:00 – 22:30)
Buses depart at 19:30

SITIS 2018
Program Schedule

Monday November 26, 2018

Time	Room1	Room2
09:00 - 09:30	*Opening ceremony*	
09:30 - 10:30	Keynote1 **Mining Electronic Health Records: Challenges and Impact** *Dr. Ernestina Menasalvas*	
10:30 - 11:00	*Coffee Break*	
11:00 - 12:30	SIVT S1	WS UBIO S1
12:30 - 13:00	Break	
14:00 - 16:00	SIVT S2	WS CITIMA S1
16:00 - 16:30	*Coffee Break*	
16:30 - 18:30	WS MIRA S1	Joint Session S2 WS CITIMA WS UBIO
19:00 - 20:00	*Welcome Reception*	

*Monday November 26 --- **09:30 - 10:30***

Room 1
Keynote 1

Keynote 1
Mining Electronic Health Records: Challenges and Impact
Prof. Ernestina Menasalvas

*Coffee Break --- **10:30 - 11:00***

*Monday November 26 --- **11:00 - 12:30***

Room 1

SIVT
S1

Track **SIVT**: Signal Image and Vision Technology

SIVT - S1: Object detection and recognition

Chair: Albert Dipanda

149 Image Based Hieroglyphic Character Recognition
Reham Hossam, Rimon Elias and Mohammed Salem

138 Cascaded CNN Method for Far Object Detection in Outdoor Surveillance
Amir Ghahremani, Egor Bondarev and Peter H.N. de With

79 Learning Neighbourhoods for Fingerprint Indexing
Patrick Schuch, Jan Marek May and Christoph Busch

28 Prediction and Modeling for No-Reference Video Quality Assessment based on Machine-Learning
Juan Pedro López Velasco, David Martín Gutiérrez, David Jiménez Bermejo and José Manuel Menéndez García

Room 2

WS UBIO S1

Workshop **UBIO**: Ubiquitous Implicit Biometrics and Health Signals Monitoring for Person-centric Applications

Chairs: Maria De Marsico, Modesto Castrillón-Santana, Stefano Ricciardi

61 Sex-Prediction from Periocular Images across Multiple Sensors and Spectra
Juan Tapia, Christian Rathgeb and Christoph Busch

63 Expression Recognition Using the Periocular Region: A Feasibility Study
Fernando Alonso-Fernandez, Josef Bigun and Cristofer Englund

90 Iris Recognition in Visible Wavelength: Impact and Automated Detection of Glasses
Dailé Osorio Roig, Pawel Drozdowski, Christian Rathgeb, Annette Morales González Quevedo, Eduardo Garea Llano and Christoph Busch

100 Towards Multi-Modal Finger Presentation Attack Detection
Marta Gomez-Barrero, Jascha Kolberg and Christoph Busch

187 Impact of Gait Stabilization: a study on how to exploit it for user recognition
Alessio Mecca

*Break --- **12:30 - 14:00***

*Monday November 26 --- **14:00 - 16:00***

Room 1

SIVT S2

Track **SIVT**: Signal Image and Vision Technology

SIVT - S2: Theory and Methods (1)

Chair: Albert Dipanda

34 Estimating the Properties of the Single-trial Speech Auditory Brainstem Response using an Accurate AR Model
Anwar Fallatah and Hilmi Dajani

13 Adaptive Tobit Kalman-based tracking
Kostas Loumponias, Anastasios Dimou, Nicholas Vretos and Petros Daras

57 Comparing CNNs and JPEG for Real-Time Multi-view Streaming in Tele-Immersive Scenarios
Konstantinos Konstantoudakis, Emmanouil Christakis, Petros Drakoulis, Alexandros Doumanoglou, Nikolaos Zioulis, Dimitrios Zarpalas and Petros Daras

176 Approximation of pore space with ellipsoids: a comparison of the geometrical method with the statistical one
Lucie Druoton, Dominique Michelucci and Olivier Monga

Room 2

WS CITIMA S1

Workshop **CITIMA**: Computational Intelligence Techniques for Industrial and Medical Applications

CITIMA - S1

Chair: Marco Anisetti, Valerio Bellandi, Gwanggil Jeon, Roberto Sassi

27 Classification of Tibetan medical syndrome based on class association rules
Xiaolan Zhu, Lei Zhang, Lu Wang, Shiying Wang, Xuexi Wang and Gwanggil Jeon

169 Big Data Analytics in Healthcare: Design and Implementation for a Hearing Aid Case
Jeppe Høy Christensen, Michael Kai Petersen, Niels Henrik Pontoppidan and Marco Cremonini

170 Image Demosaicking Using Densely Connected Convolutional Neural Network
Bumjun Park and Jechang Jeong

181 Breast lesion segmentation in DCE- MRI Imaging.
Zuzanna Koper, Mariusz Frąckiewicz, Henryk Palus, Damian Borys and Krzysztof Psiuk-Maksymowicz

184 A phantom study of new bias field correction method combining N3 and KHM for MRI imaging
Damian Borys, Wojciech Serafin, Mariusz Frąckiewicz, Krzysztof Psiuk-Maksymowicz and Henryk Palus

*Coffee Break --- **16:00 - 16:30***

*Monday November 26 --- **16:30 - 18:30***

Room 1

WS MIRA S1

Workshop **MIRA**: Multimedia Information Retrieval and Applications

MIRA - S1: Machine Learning Techniques on Multimedia Retrieval and Classification

Chair: Andrea Kutics

14 Learning language-independent representations of verbs and adjectives from multimodal retrieval
Victor Petrén Bach Hansen and Anders Søgaard

92 Oriented Tracklets Approach for Anomalous Scene Detection in High Density Crowd
Sonu Lamba and Neeta Nain

101 Instance Retrieval at Fine-grained Level Using Multi-Attribute Recognition
Roshanak Zakizadeh, Yu Qian, Michele Sasdelli and Eduard Vazquez

153 Hierarchical Motion Tracking Using Matching of Sparse Features
Petr Pulc and Martin Holena

166 Retrieval of facial images re-rendered with natural aging effect using child facial image and age
Praveen Kumar Chandaliya, Preyas Garg, Neeta Nain

84 Automatic image annotation using random projection in a conceptual space induced from data
Marco La Cascia, Luigi Gallo, Giovanni Pilato, Giorgio Vassallo and Filippo Vella

Room 2

Joint Session
WS CITIMA
WS UBIO
S2

Joint Session: WS CITIMA - S2, WS UBIO – S2

Workshop **CITIMA**: Computational Intelligence Techniques for Industrial and Medical Applications

Chairs: Marco Anisetti, Valerio Bellandi, Gwanggil Jeon, Roberto Sassi

Workshop **UBIO**: Ubiquitous Implicit Biometrics and Health Signals Monitoring for Person-centric Applications

Chairs: Maria De Marsico, Modesto Castrillón-Santana, Stefano Ricciardi

18 A Reinforcement Learning-based Approach for the Risk Management of e-Health Environments: A Case Study
Giovanni Paragliola, Antonio Coronato, Muddasar Naeem and Giuseppe De Pietro

32 Feature Extraction and Selection for Real-Time Emotion Recognition in Video Games Players
Marco Granato, Davide Gadia, Dario Maggiorini and Laura Anna Ripamonti

185 A Big-Data Informed Model Approach to Hearing Health Policy Decision Making
Panagiotis Katrakazas, Ourania Manta and Dimtris Koutsouris

189 Processing Big Data in streaming for fault prediction: an industrial application
Annamaria Crespino, Carla Dibiccari, Mariangela Lazoi, Marianna Lezzi and Angelo Corallo

*Welcome Reception --- **19:00 - 20:00***

Tuesday November 27, 2018

Time	Room1	Room2
09:00 - 10:00	Keynote2 **A Constrained-Based Approach to Machine Learning** *Dr. Marco Gori*	
10:00 - 10:30	*Coffee Break*	
10:30 - 12:30	IWECA S1	WS KARE
12:30 - 14:00	Break	
14:00 - 16:00	SIVT S3	Joint Session S2 IWECA WS MIRA
16:00 - 16:30	*Coffee Break*	
16:30 - 18:30	SIVT S4	WS NAMDAC

*Tuesday November 27, 2018 --- **09:00 - 10:00***

Room 1
Keynote 2

Keynote 2

A Constrained-Based Approach to Machine Learning

Prof. Marco Gori

*Coffee Break --- **10:00 - 10:30***

*Tuesday November 27, 2018 --- **10:30 - 12:30***

Room 1

IWECA
S1

Track **IWECA**: Intelligent Web Computing and Applications

IWECA - S1: Data Mining and Uncertainty

Chair: Richard Chbeir

30 K-means Clustering in Dual Space for Unsupervised Feature Partitioning in Multi-view Learning
Gabriele Gianini, Corrado Mio and Ernesto Damiani

89 Fruit and Vegetable Identification Using Machine Learning for Retail Applications
Frida Femling, Adam Olsson and Fernando Alonso-Fernandez

163 An entropy-based uncertainty measure of configurable process models
Malak Saidi, Anis Tissaoui, Djamal Benslimane and Wehbi Benallal

164 A probabilistic approach: A model for the uncertain representation and navigation of uncertain web resources
Soura Boulaares, Asma Omri, Salma Sassi and Djamal Benslimane

Room 2 **WS KARE**	Workshop **KARE**: Knowledge Acquisition Reuse & Evaluation *Chair: Davy Monticolo* 146 Multi-objective Clustering Ensemble for Varying Number of Clusters *Sujoy Chatterjee, Nicolas Pasquier and Anirban Mukhopadhyay* 154 OAFE: An Ontology for the description of elderly activities *Rahma Dandan, Sylvie Despres and Jerome Nobecourt* 171 A Model to Represent the Knowledge of Women's Living Conditions' Development in Difficult Environments *Paulina Potemski, Nada Matta and Patrick Laclemence* 173 DOTK: Descriptive Ontology for Territorial Knowledge for Sustianability *Amer Ezoji and Nada Matta* 179 Use of Bayesian Network characteristics to link project management maturity and risk of project overcost *Felipe Sanchez, Monticolo Davy, Eric Bonjour and Jean-Pierre Micaëlli*
	*Break --- **12:30 - 14:00***
	*Tuesday November 27, 2018 --- **14:00 - 16:00***
Room 1 **SIVT** **S3**	Track **SIVT**: Signal Image and Vision Technology **SIVT - S3: Segmentation-Classification** *Chair: Luigi Gallo* 20 Detection and Classification of Epileptiform Activity in EEG of Rats after Traumatic Brain Injury *Konstantin Obukhov, Ivan Kershner, Ilya Komoltsev and Yury Obukhov* 31 BTF Compound Texture Model with Fast Iterative Non-Parametric Control Field Synthesis *Michal Haindl and Vojtech Havlicek* 40 Detecting Glass In Ocular Region Based On Grassmann Manifold Projection Metric Learning By Exploring Spectral Imaging *Narayan Vetrekar, Raghavendra Ramachandra, Kiran B. Raja and Rajendra Gad* 152 Detection of Harbour Porpoise with Low-level Feature Extraction and Deep Learning Based Classification *Purbaditya Bhattacharya, Steffen Wulf and Udo Zölzer* 70 Evaluating a Cover based Rough Set Classifier in a Content based Image Retrieval System *Maryam Shahabi Lotfabadi, Yongzhao Zhan and Amir Bashirzadeh* 23 Dynamic Range Extension and Matching from a Single LDR Image *Van Luan Tran and Huei-Yung Lin Lin*

Room 2

Joint Session
IWECA
WS MIRA

Joint Session: TR IWECA, WS MIRA

IWECA - S2: Applications and Tools

Chair: Richard Chbeir

MIRA - S2: Online Multimedia Retrieval Applications based on Semantics and Emotion

Chairs: Neeta Nain

104 Image Quality and Texture-Based Features for Reliable Textured Contact Lens Detection
Hareesh Mandalapu, Raghavendra Ramachandra and Christoph Busch

159 Building Quality Metrics for Green Computing Projects: A Model and a Case Study of Engineering a Green Computing Awareness Website
Amany Alnahdi and Faisal Bazarah

137 Performance Comparison of Client-Centered Counseling Agents
Tsubasa Horii, Yoshitaka Sakurai, Eriko Sakurai, Setsuo Tsuruta, Andrea Kutics and Akihiko Nakagawa

141 Leveraging Knowledge Graphs of Movies and their Content for Web-Scale Analysis
Fabrizio Orlandi, Jeremy Debattista, Islam A. Hassan, Majid Latifi, Matthew Nicholson, Clare Conran, Fahim A. Salim, Daniel Turner, Owen Conlan, Declan O'Sullivan and Jian Tang

*Coffee Break --- **16:00 - 16:30***

*Tuesday November 27, 2018 --- **16:30 - 18:30***

Room 1

SIVT
S4

Track **SIVT**: Signal Image and Vision Technology

SIVT - S4: Face and Facial Characteristicn Recognition

Chair: Neeta Nain

86 Face recognition in video streams for mobile assistive devices dedicated to visually impaired
Ruxandra Tapu, Mocanu Bogdan and Titus Zaharia

121 Predictive sampling of facial expression dynamics driven by a latent action space
Giuseppe Boccignone, Matteo Bodini, Vittorio Cuculo and Giuliano Grossi

9 Dual-Camera Facial Landmark Tracking for Clinical Infant Monitoring
Ronald W.J.J. Saeijs, Walther E. Tjon A Ten and Peter H.N. De With

45 An Online Multi-Face Tracker for Unconstrained Videos
Darijan Marčetić and Slobodan Ribarić

Room 2

WS NAMDAC

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

Chairs: Livia Marcellino, Ardelio Galletti

26 Development and Implementation of a Multi-Robot System for Collaborative Exploration and Complete Coverage
Yi-Chun Huang and Huei-Yung Lin

134 Traditional and Deep Learning Approaches to Information and Influence Propagation in Social Networks
Salvatore Cuomo, Giovannni Colecchia, Francesco Piccialli and Francesco Maiorano

91 A GPU parallel Algorithm for Image denoising based on Wavelet Transform coefficients Thresholding
Luigi Russo, Livia Marcellino and Ardelio Galletti

Wednesday November 28, 2018

Time	Room1	Room2
09:00 - 10:00	Keynote3 **Audio-visual learning for body camera** *Dr. Andrea Cavallaro*	
10:00 - 10:30	*Coffee Break*	
10:30 - 12:30	SIVT S5	Joint Session S1 WS QUAMUS WS VICTA
12:30 - 14:00	Break	
14:00 - 16:00	Joint Session SIVT S6 WS COMI	Joint Session S1 LHNA WS DARWIN
16:00 - 16:30	*Coffee Break*	
16:30 - 18:30	SIVT S7	WS OBIS
20:00 - 22:30	*Banquet*	

*Wednesday November 28 --- **10:30 - 12:30***

Room 1
Keynote 3

Keynote 3

Audio-visual learning for body camera

Prof. Andrea Cavallaro

*Coffee Break --- **10:00 - 10:30***

*Wednesday November 28 --- **10:30 - 12:30***

Room 1

SIVT
S5

Track **SIVT**: Signal Image and Vision Technology

SIVT - S5: Theory and Methods (2)

Chair: Pierre Gouton

64 Asymmetric Bilateral Phase Correlation for Motion Estimation in the Frequency Domain
Vasileios Argyriou

35 Application of Radial Basis Function Interpolation for Content Aware Image Retargeting
Mekides Assefa Abebe and Jon Yngve Hardeberg

145 Multi-views Embedding for Cattle Re-identification
Luca Bergamini, Angelo Porrello, Simone Calderara, Andrea Capobianco Dondona, Ercole Del Negro, Mauro Mattioli and Nicola D'Alterio

103 Trajectories and camera motion compensation in aerial videos
Charles Beumier and Xavier Neyt

Room 2

Joint Session
WS QUAMUS
WS VICTA

Joint Session WS QUAMUS, WS VICTA

Workshop **QUAMUS**: Quality of Multimedia Services

Chairs: Mohammed El Hassouni

Workshop **VICTA**: Visions on Internet of Cultural Things and Applications

Chairs: Francesco Piccialli, Jason J. Jung

174 Reduced reference mesh visual quality assessment based on convolutional neural network
Ilyass Abouelaziz, Aladine Chetouani, Mohammed El Hassouni and Hocine Cherifi

55 Extending SocioScope Framework for Generating Knowledge Graph from Social Data
Hoang Long Nguyen and Jason Jung

120 Exploring the feasibility of diegetic user interfaces in immersive virtual exhibitions within the cultural heritage
Giuseppe Caggianese, Luigi Gallo and Pietro Neroni

161 Towards Scalable Recommendation Framework with Heterogeneous Data Sources: Preliminary results
Nam D. Vo and Jason Jung

*Break --- **12:30-14:00***

*Wednesday November 28, 2018 --- **14:00-16:00***

Room 1

Joint Session
SIVT-S6
WS COMI

Joint Session TR SIVT - WS COMI

SIVT – S6

Chairs: Albert Dipanda

Workshop **COMI**: Color and Multispectral Imaging

Chairs: Jean-Baptiste Thomas, Pierre Gouton, Jon Yngve Hardeberg

10 Halftone modulation for embedding UV watermarks in color printed images
Vlado Kitanovski and Marius Pedersen

43 Assessment of two fast multispectral imaging systems for imaging of a cultural heritage aritifact - a Russian icon
Raju Shrestha and Jon Yngve Hardeberg

47 Path opening for hyperspectral crack detection of cultural heritage paintings
Tom Gillooly, Hilda Deborah and Jon Yngve Hardeberg

8 Multispectral Texture Fidelity Measure
Milos Kudelka Jr. and Michal Haindl

Room 2

Joint Session
LHNA
WS DARWIN

Joint Session TR LHNA, WS DARWIN

Track **LHNA**: Large, Heterogeneous Networks and their Applications

Chair: Ana Roxin

Workshop **DARWIN**: Distributed, Autonomic and Robust Wireless Networks

Chairs: Wahabou Abdou, Jamal Toutouh, Blaise Omer Yenké

4 Towards Semantic-based Social Network Analysis
Raji Ghawi, Mirco Schönfeld and Juergen Pfeffer

6 Latency Aware into LTE-V2X Mode 4 System
Houda Chihi, Rafik Zitouni, Ridha Bouallegue and Amar Ramdane Cherif

12 Outliers' detection in one dimensional meteorological data stream
Tanzouak Vaumi Joel Paulin, Yenke Blaise Omer, Ndiouma Bame and Idrissa Sarr

177 SREP: An Energy Efficient Relay Protocol for Wireless Sensor Networks
Simon Obenofunde and Olivier Togni

*Coffee Break --- **16:00 - 16:30***

*Wednesday November 28, 2018 --- **16:30 - 18:30***

Room 1

SIVT
S7

Track **SIVT**: Signal Image and Vision Technology

SIVT - S7: 3D Imaging

Chair: Cyrille Migniot

56 A low-cost, flexible and portable volumetric capturing system
Vladimiros Sterzentsenko, Antonis Karakottas, Alexandros Papachristou, Nikolaos Zioulis, Alexandros Doumanoglou, Dimitrios Zarpalas and Petros Daras

65 Object 3D Reconstruction based on Photometric Stereo and Inverted Rendering
Anish R. Khadka, Paolo Remagnino and Vasileios Argyriou

133 Multi-size Pooling for Stereo Matching Cost
Zehua Fu and Mohsen Ardabilian

110 Deep learning based camera pose estimation in multi-view environment
Jorge Charco Aguirre, Boris Vintimilla and Angel Sappa

Room 2

WS OBIS

Workshop **OBIS**: Open Business Intelligence Systems

Chairs: Elfazziki Abdelaziz, Mohamed Sadgal, Zahi Jarir

117 Predicting Unsubscription from Customer's E-mail using Deep Learning
Yuta Kawasaki, Yoshitaka Sakurai, Eriko Sakurai and Setsuo Tsuruta

136 RDF-based Web Information Integration System : A Travel System Use Case
Pelagie Houngue and Kouessi Arafat Romaric Sagbo

157 An Advertisement Effect Simulator for Single Source Data and its Experimental Evaluation
Yutaro Hara, Yoshitaka Sakurai and Setsuo Tsuruta

182 Decision support system for the Analysis of Traffic Accident Big Data
Hasna Elalaoui Elabdallaoui, Abdelaziz Elfazziki, Fatima Zohra Ennaji and Mohamed Sadgal

183 Toward a Smart Cloud Service Composition: Popularity-driven Approach
Ilyass El Kassmi and Zahi Jarir

*Banquet --- **20:00 - 22:30***

Thursday November 29, 2018

Time	Room1	Room2
10:30 - 12:30	SIVT S8	WS IWAIIP S1
12:30 - 14:00	Break	
14:00 - 16:00	Joint Session SIVT-S9 WS HTBA	WS IWAIIP S2
16:00 - 16:30	*Coffee Break*	
16:30 - 18:30	SIVT S10	

*Thursday November 29, 2018 --- **10:30 - 12:30***

Room 1

SIVT S8

Track **SIVT**: Signal Image and Vision Technology

SIVT - S8: Application

Chair: Charles Beumier

105 Conceptual Model of the Smart Attendance Monitoring System Using Computer Vision
Louis Mothwa, Jules Raymond Tapamo and Temitope Mapayi

58 A Mobile Mental Health Monitoring System: A Smart Glove
Luay Fraiwan, Tasnim Basmaji and Omnia Hassanin

129 Presentation Attack Detection for Smartphone Based Fingerphoto Recognition Using Second Order Local Structures
Pankaj Wasnik, Raghavendra Raghavendra and Christoph Busch

48 NIR Camera Based Mobile Seat Belt Enforcement System Using Deep Learning Techniques
Burak Balci, Bensu Alkan, Alperen Elihos and Yusuf Artan

124 Water Hyacinth Segmentation for Aquatic Weed Elimination in Thailand
Supatta Viriyavisuthisakul, Parinya Sanguansat and Toshihiko Yamasaki

Room 2

WS IWAIIP S1

Workshop **IWAIIP**: Artificial Intelligent Approaches for Image Processing

IWAIIP - S1

Chair: Thaweesak Yingthawornsuk

49 Estimating Pig Weight with Digital Image Processing using Deep Learning
Sirimonpak Suwannakhun and Patasu Daungmala

54 Classfication of Categorized KMUTT-BKT's Landscape Images using RGB Color Feature
Siriphan Phetnuam and Thaweesak Yingthawornsuk

80 Emotional Detection of Patients Major Depressive Disorder in Medical Diagnosis
Mahasak Ketcham, Manussawee Piyaneeranart and Thittaporn Ganokratanaa

82 Interactive Multimedia-base Mobile learning for Health : The Creative Media Design of Acne is a health indicator
Chudanat Sudthongkhong, Thanannath Phattharachairawee and Sutharat Puangsing

85 Classification of ECG Signals using Modified Hjorth Descriptors
Thaweesak Yingthawornsuk

*Break --- **12:30 - 14:00***

*Thursday November 29, 2018 --- **14:00 - 16:00***

Room 1

Joint Session
SIVT-S9
WS HTBA

Joint Session TR SIVT - WS HTBA

SIVT – S9

Chairs: Albert Dipanda

Workshop **HTBA**: Human Tracking and Behaviour Analysis

Chairs: Cyrille Migniot, Fakhreddine Ababsa

78 Single Image, Context Aware Action Estimation in Sports
Christian Lanius, Daisuke Kobayashi, Kazushige Ouchi and Yoshimitsu Aoki

39 Estimation of Scenes Contributing to Score in Tennis Video using Attention
Ryunosuke Kurose, Masaki Hayashi and Yoshimitsu Aoki

88 Action and intention recognition of pedestrians in urban traffic
Dimitrios Varytimidis, Fernando Alonso-Fernandez, Cristofer Englund and Boris Duran

126 Machine Learning for Video Action Recognition: a Computer Vision Approach
Mikel Labayen, Naiara Aginako, Basilio Sierra, Igor G. Olaizola and Julián Floréz

188 Kinematic Covariance Based Abnormal Gait Detection
Margarita Khokhlova

83 Human Action Recognition Using Spatial Temporal Analysis and Bag of Visual Words
Denver Naidoo, Jules-Raymond Tapamo and Tom Walingo

94 SurfaceVox - Exploring Sound Control for Gesture-Tracking Interactive Surfaces
Arjan Kuijper, Andreas Braun, Martin Majewski, Joachim Loge and Florian Kirchbuchner

Room 2

WS IWAIIP S2

Workshop **IWAIIP**: Artificial Intelligent Approaches for Image Processing

IWAIIP - S2

Chair: Mahasak Ketcham

106 Face detection criminals through CCTV cameras
Worawut Yimyam, Thidarat Pinthong and Narumol Chumuang

115 Cross-spectral image dehaze through a dense stacked conditional GAN based approach
Patricia Suarez, Angel Sappa and Boris Vintimilla

118 Video Based Smoke and Flame Detection Using Convolutional Neural Network
Geumyoung Son, Jang-Sik Park, Byung-Woo Yoon and Jong-Gwan Song

119 Comparative Algorithm for Predicting the Protein Localization Sites with Yeast Dataset
Narumol Chumuang

131 The development of hand controller for persons with disabilities by Myo Sensor
Teerapong Boonlar and Wijittra Prasatkaew

180 Detecting Deceptive Images in Online Content
Amal Almansour, Sheymaa Almalki and Hajer Almalki, Pedro Chávez Barrios, Davy Monticolo, Sahbi Sidhom, Alex Gabriel

*Coffee Break --- **16:00 - 16:30***

*Thursday November 29, 2018 --- **16:30 - 18:30***

Room 1

SIVT S10

Track **SIVT**: Signal Image and Vision Technology

SIVT - S10: Image Enhancement/Filtering

Chair: Jon Yngve Hardeberg

29 How Size and Relative Contrast Can Improve Specular Highlight Detection
Ana Stojkovic, Jan Aelterman, Hiep Luong, Hans Van Parys, Ljubomir Jovanov and Wilfried Philips

130 Improving Edge Detection in RGB Images by Adding NIR Channel
Xavier Soria Poma and Angel D. Sappa

107 Evaluation framework for multiband image enhancement and blending algorithms in EFVS
Victor Medina Heierle, María Tejada Casado, Alberto Briasco González, Hugo Jestes Zoilo, Jesús Martín Tapia, Adeodato Altamirano Aguilar and Javier Muñoz de Luna

151 Measuring and Mitigation Speckle Noise in Dual-axis Confocal Microscopy Images
Davit Gigilashvili, Chengbo Yin, Jonathan T.C. Liu, Jon Yngve Hardeberg and Marius Pedersen

Conference Venue & Location

SITIS 2018 will be held at Hotel Reina Isabel & Spa **** (address: Calle Alfredo L. Jones, 40, Las Palmas de Gran Canaria) which is located on the Playa de Las Canteras beachfront in Las Palmas, providing several room possibilities. The conference rooms chosen for the SITIS 2018 tracks as well as for the workshops are: Baldaquino, Galdós and Fogón. The two rooms Baldaquino and Galdós are close to the hotel reception, while room Fogón is in the first floor. All three rooms are anyway rather close to each other.

Location

The city Las Palmas de Gran Canaria is and open and cosmopolitan capital city located in the island of Gran Canaria at the Canaries. Being the island a frequent touristic destination, particularly for Europeans, the city location on the northeast of Gran Canaria, serves to be considered within the top best weather year around world cities, with an average temperature of pleasant 17ºC in winter, and a comfortable and 25ºC in summer. Founded in 1478, the city has performed, as a cultural and financial bridge among Europe, America and Africa. In fact, Christopher Columbus stopped in Las Palmas de Gran Canaria to repair one of his vessels in his first trip to America.

The city is easily reachable from the International Airport of Gran Canaria, the sixth Spanish airport in number of passengers, located 18 km away from the city center. Only two and a half hours are needed from Madrid, and four from main European cities.

The city ranked first in the 2016 Travellers' Choice by tripadvisor highlighting the spectacular Las Cateras beach, the old quarter of Vegueta and its colonial style, and the city botanical garden Viera y Clavijo. The city is also a beloved destination among digital nomads who search a nice working atmosphere close to a beach.

The beach of Las Canteras, beside the conference venue, is in the top ten according the 2018 Travellers' Choice beaches in Europe, and in fact one of the best urban cities in the world where not just swimming is possible all year round,

but also walking along the four kilometres promenade, stopping by in bars and restaurants, or even searching more adventures surfing, scuba diving, snorkelling, kayaking, etc.

The local gastronomy is also highlighted by foreign visitors covering canary specialities (papas arrugadas – wrinkled potatoes-, Canary pork ham, seafood, Canary cheese, wines, …) and all over the world restaurants given the cosmopolitan city population and the repeating visitors.

General information. The Canaries are part of Spain and Europe. Thus, the euro (€) is the local currency and Spanish is the local language, with an accent closer to the Spanish spoken in South America, i.e. softening 'zeds' and 'cees'. Shopping timetables are similar to the rest of Spain opening from 10am to 2pm, and from 4pm to 8pm. However, several shopping centres do not close for lunch. Observe that locals usually have lunch between 2pm and 3pm, while dinner is never before 8pm, even after 10pm during weekends. Visitors can however enjoy meals at any time in the most visited areas, i.e. Las Canteras beach and the Triana and Vegueta area. The time zone is GMT, i.e. one hour less with the rest of Spain, in summer and in winter. Electric devices work on 220 volts. For emergencies call 112.

More information

Las Palmas de Gran Canaria oficial tourism site
Las Canteras beach webcams
Gran Canaria oficial tourism site
Gran Canaria on youtube
Gran Canaria on twitter

THAT'S ALL FOLKS

Wishing you well

CONFERENCE SCHEDULE

Time	Sunday November 25, 2018	Monday November 26, 2018		Tuesday November 27, 2018		Wednesday November 28, 2018		Thursday November 29, 2018	
		Registration (08:30 - 18:00)		Registration (08:30 - 18:00)		Registration (08:30 - 18:00)		Registration (10:00 - 18:00)	
		Room1	Room2	Room1	Room2	Room1	Room2	Room1	Room2
09:00 - 09:30	A WARM WELCOME TO LAS PALMAS AND SITIS 2018	Opening ceremony		Keynote 2 Marco Gori		Keynote 3 Andrea Cavallaro			
09:30 - 10:00		Keynote1 Ernestina Menasalvas							
10:00 - 10:30				Coffee Break		Coffee Break			
10:30 - 11:00		Coffee Break							
11:00 - 11:30		SIVT S1	WS UBIO S1	IWECA S1	WS KARE	SIVT S5	Joint Session S1 WS QUAMUS WS VICTA	SIVT S8	WS IWAIIP S1
11:30 - 12:00									
12:00 - 12:30									
12:30 - 13:00		Break		Break		Break		Break	
13:00 - 13:30									
13:30 - 14:00									
14:00 - 14:30		SIVT S2	WS CITIMA S1	SIVT S3	Joint Session S2 IWECA WS MIRA	Joint Session SIVT S6 WS COMI	Joint Session S1 LHNA WS DARWIN	Joint Session SIVT-S9 WS HTBA	WS IWAIIP S2
14:30 - 15:00									
15:00 - 15:30									
15:30 - 16:00									
16:00 - 16:30		Coffee Break		Coffee Break		Coffee Break		Coffee Break	
16:30 - 17:00	Registration	WS MIRA S1	Joint Session S2 WS CITIMA WS UBIO	SIVT S4	WS NAMDAC	SIVT S7	WS OBIS	SIVT S10	
17:00 - 17:30									
17:30 - 18:00									
18:00 - 18:30									
Social Event		Welcome Reception (19:00 - 20:00)				Banquet (20:00) Buses depart at 19:30		That's it folks	