

2019 8th European Workshop on Visual Information Processing (EUVIP 2019)

**Roma, Italy
28 – 31 October 2019**



**IEEE Catalog Number: CFP1906K-POD
ISBN: 978-1-7281-4497-9**

**Copyright © 2019 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:	CFP1906K-POD
ISBN (Print-On-Demand):	978-1-7281-4497-9
ISBN (Online):	978-1-7281-4496-2
ISSN:	2164-974X

Additional Copies of This Publication Are Available From:

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

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

Organizing Committee	1
Reviewers	3
Visual Information Coding	4
<i>M. Ponomarenko, K. Egiazarian</i> Adaptive Block Matching Based Quantization For Lossy Image Compression	4
<i>M. Corsini, F. Banterle, F. Ponchio, P. Cignoni</i> Image Sets Compression via Patch Redundancy	10
<i>P. Gomes, L. A. d. S. Cruz</i> Pseudo-Sequence Light Field Image Scalable Encoding with Improved Random Access	16
<i>M. Aklouf, M. Leny, F. Dufaux, M. Kieffer</i> Low Complexity Versatile Video Coding (VVC) for Low Bitrate Applications	22
<i>I. Mitrica, A. Fiandrotti, M. Cagnazzo, E. Mercier, C. Ruellan</i> Cockpit Video Coding with Temporal Prediction	28
<i>A. F. R. Guarda, N. M. M. Rodrigues, F. Pereira</i> Deep Learning-Based Point Cloud Coding: A Behavior and Performance Study	34
Visual Information Analysis and Processing	40
<i>S. A. Amirshahi, A. Kadyrova, M. Pedersen</i> Do Contrast Measures Correlate? A Pilot Investigation	40
<i>R. Naseem, F. Alaya Cheikh, A. Beghdadi, O. J. Elle, F. Lindseth</i> Cross modality guided liver image enhancement of CT using MRI	46
<i>B. Magnier, B. Moradi, P. Carré</i> Evaluation of Half Gaussian Filter Rotation For Edge Detection	52
<i>K. Bodduna, J. Weickert</i> Poisson Noise Removal Using Multi-Frame 3D Block Matching	58
Image Quality Assessment	64
<i>F. Conti, S. Colonnese, F. Cuomo, L. Chiaraviglio, I. Rubin</i> Quality of Experience Meets Operators Revenue: DASH Aware Management For Mobile Streaming	64
<i>T. Habib, M. Pedersen</i> Short-Term Memory Effects In Subjective Image Quality Assessment Of Natural Images	70
<i>L. Jalal, M. Martini, M. Murrone</i> QoE for Multi-Sensorial media in Smart Home: challenges ahead	76

Scene Analysis and Understanding	82
<i>L. Zhao, M. Pedersen, J. Y. Hardeberg, B. Dervo</i> Image-Based Recognition Of Individual Trouts In The Wild	82
<i>M. Paracchini, M. Marcon, S. Tubaro</i> Fast and Reliable Facial Landmarks Localization in Non Frontal Images	88
<i>H. Ullah, S. D. Khan, M. Ullah, M. Uzair, F. Alaya Cheikh</i> Two Stream Model for Crowd Video Classification	93
<i>S. D. Khan, H. Ullah, M. Ullah, F. Alaya Cheikh, A. Beghdadi</i> Dimension Invariant Model for Human Head Detection	99
Image and Video Processing Applications	105
<i>O. Rubel, A. Rubel, V. Lukin, M. Carli, K. Egiazarian</i> Blind Prediction of Original Image Quality for Sentinel SAR Data	105
<i>K. Guissous, V. Gouet-Brunet</i> Saliency and Burstiness for Feature Selection in CBIR	111
<i>D. Vilimek, J. Kubicek, M. Penhaker, D. Oczka, M. Augustynek, M. Cerny</i> Current Automatic Methods for Knee Cartilage Segmentation: A Review	117
<i>S. Jaballah, C. Larabi</i> Fast Object Detection in H264/AVC and HEVC Compressed Domains for Video Surveillance	123
<i>M. Roque, L. A. d. S. Cruz</i> An Empirical Study of the Effect of Point Cloud Compression on the Performance of Segmentation	129
Special Session: Visual Communication with 6 DoF	135
<i>A. Ak, P. Le Callet</i> Investigating Epipolar Plane Image Representations for Objective Quality Evaluation of Light Field Images	135
<i>S. Moreschini, R. Bregovic, A. Gotchev</i> Shearlet-Based Light Field Reconstruction of Scenes with Non-Lambertian Properties	140
<i>M. Brizzi, F. Battisti, A. Neri</i> Light Field Depth-Of-Field Expansion and Enhancement Based on Multifocus Fusion	146
<i>N. Sheikhipour, M. Pesonen, S. Schwarz, V. K. M. Vadakital</i> Improved Single-Layer Coding of Volumetric Data	152
Advancements in Visual Information Representation and Compression	158
<i>G. Scarano, M. Biagi, R. Cusani</i> Use of Second-Order Statistics in Texture Synthesis-By-Analysis	158
<i>D. Medda, W. Song, C. Perra</i> Objective Image Quality Analysis of Convolutional Neural Network Light Field Coding	163
<i>S. Göring, A. Raake</i> Evaluation of Intra-Coding Based Image Compression	169

Applications	175
<i>M. Ullah, H. Ullah, S. D. Khan, F. Alaya Cheikh</i> Stacked LSTM Network for Human Activity Recognition Using Smartphone Data	175
<i>E. Maiorana, H. Kalita, P. Campisi</i> DeepKey: Keystroke Dynamics and CNN for Biometric Recognition on Mobile Devices	181
<i>N. Vetrekar, R. Ramachandra, K. B. Raja, R. Gad</i> Multi-Spectral Imaging for Artificial Ripened Banana Detector	187
<i>F. Colangelo, A. Neri, F. Battisti</i> Countering Adversarial Examples by Means of Steganographic Attacks	193
<i>S. Boutarfass, B. Besserer</i> Convolutional Autoencoder for Discriminating Handwriting Styles	199
<i>A. Trioux, F.-X. Coudoux, P. Corlay, M. Gharbi</i> A Reduced Complexity / Side Information Preprocessing Method for High Quality SoftCast-Based Video Delivery	205
Special Session: Intelligent Methods and AI for Biomedical Imaging Systems	211
<i>S. Alzahrani, W. Al-Nuaimy, B. Al-Bander</i> Seven-Point Checklist with Convolutional Neural Networks for Melanoma Diagnosis	211
<i>Z. Amiri, H. Hassanpour, A. Beghdadi</i> A Computer-Aided Method to Detect Bleeding Frames in Capsule Endoscopy Images	217
<i>C. Losquadro, S. Conforto, M. Schmid, G. Giunta, M. Rengo, D. Caruso, A. Laghi</i> MR Image Processing to Predict Complete Responders by Evaluating the Tumor Regression Grade: a Sensitivity Analysis	222
<i>M. Augustynek, J. Cihak, D. Vilimek, J. Kubicek, M. Penhaker, K. Fiedorova</i> Biocompatibility of Medical Devices and their Risks	228
Visual Descriptors for Image Quality Enhancement and Representation	232
<i>S. A. Amirshahi, A. Kadyrova, M. Pedersen</i> How Do Image Quality Metrics Perform on Contrast Enhanced Images?	232
<i>S. G. Bahnemiri, M. Ponomarenko, K. Egiazarian</i> Deep Convolutional Autoencoder for Estimation of Nonstationary Noise in Images	238
<i>G. E. Hine, E. Maiorana, P. Campisi</i> Minutiae Triple Correlation: a Translation Invariant Fingerprint Representation	244
Author Index	250