

EUVIP 2021

Technical Program

Wednesday, 23 June

09:00 – 09:30 Opening

09:30 – 10:30 Plenary 1 (P. Mamasian): Visual Confidence

10:30 – 11:00 Coffee break

11:00 – 12:00 Session 1 – Special Session: Image and video quality assessment

Session chair: Karen Egiazarian (Tampere University)

11:00 S1.1 – Evaluation of the bubble view metaphor for the crowdsourcing study of visual attention deployment in tone-mapped images
Waqas Ellahi (University of Nantes); Toinon Vigier (Université de Nantes); Patrick Le Callet (Université de Nantes, France)

11:15 S1.2 – Combination of Deep Learning-based and Handcrafted Features for Blind Image Quality Assessment
Aladine Chetouani (Université d'Orléans, France); Maurice Quach (L2S, CNRS, CentraleSupélec); Giuseppe Valenzise (CNRS); Frederic Dufaux (CNRS)

11:30 S1.3 – Learning based contrast enhancement evaluation using cartoon texture decomposition
Zohaib Amjad Khan (Institut Galilée, Université Paris 13); Azeddine Beghdadi (L2TI, University Sorbonne Paris Nord); Mounir Kaaniche (Université Paris 13); Faouzi Alaya-Chekh (NTNU at Gjøvik, Norway)

11:45 S1.4 – Color image database HTID for verification of no-reference metrics: peculiarities and preliminary results
Mykola Ponomarenko (Tampere University); Sheyda Ghanbaralizadeh Bahnemiri (Tampere University); Karen Egiazarian (Tampere University); Oleg Ieremeiev (National Aerospace University); Vladimir Lukin (National Aerospace University); Veli-Tapani Peltoketo (Huawei Finland); Jussi Hakala (Huawei Finland)

12:00 – 14:00 Lunch

14:00 – 14:45 Session 2: Biomedical Image Processing

Session chair: Mounir Kaaniche (University Sorbonne Paris Nord)

14:00 S2.1 – The impact of using different color spaces in histological image classification using convolutional neural networks
Ronny Xavier Velastegui Sandoval (NTNU, Gjøvik, Norway); Marius Pedersen (NTNU, Gjøvik, Norway)

14:15 S2.2 – A Preliminary Analysis of Self-Supervision for Wireless Capsule Endoscopy
Anuja Vats (NTNU); Marius Pedersen (NTNU, Gjøvik, Norway); Ahmed Kedir Mohammed (NTNU)

14:30 S2.3 – Machine learning screening of COVID-19 patients based on x-ray images for imbalanced classes

Ilyes Mrad (Qatar University); Ridha Hamila (Qatar University); Aiman Erbad (Hamad Bin Khalifa University); Tahir Hamid (Hamad Medical Corporation); Rashid Mazhar (Hamad Medical Corporation); Nasser Al-Emadi (Qatar Univeristy)

14:45 – 15:00 *Coffee break*

15:00 – 15:45 **Session 3 – Special Session: Multimedia Forensics and Biometric Security: Recent Advances**

Session chair: Ahmed Bouridane (Northumbria University)

15:00 S3.1 – FaceFakeNet: The Deep Learning Method for Image Face Anti-spoofing Detection

Mays Alshaikhli (Qatar University); Omar ELHARROUSS (Qatar University); Somaya Al Maadeed (Qatar University); Ahmed Bouridane (Northumbria University)

15:15 S3.2 – Video steganalysis in the transform domain based on morphological features of the motion vectors map

Ismahane Cheheb (Northumbria University); Abdellatif Zouak (Northumbria University); Yves MICHELS (Safran Electronics & Defense); Ahmed Bouridane (Northumbria University); Salah BOURENNANE (Ecole centrale marseille)

15:30 S3.3 – Visual Quality and Security Assessment of Perceptually Encrypted Images based on Multi-output Deep Neural Network

Sid Ahmed FEZZA (National Institute of Telecommunications and ICT); Mamadou Keita (National Institute of Telecommunications and ICT); Wassim Hamidouche (INSA Rennes)

15:45 – 16:00 *Coffee break*

16:00 – 16:45 **Session 4: Multimedia Processing and Enhancement**

Session chair: Wassim Hamidouche (INSA Rennes, France)

16:00 S4.1 – Leveraging Category Information for Single-Frame Visual Sound Source Separation

Lingyu Zhu (Tampere University); Esa Rahtu (Tampere University)

16:15 S4.2 – Color Constancy Model Optimization with Small Dataset Via Pruning of CNN Filters

Sahar Husseini (Tampere University); Pouria Babahajiani (Tampere University); Moncef Gabbouj (Tampere University)

16:30 S4.3 – Blind estimation and suppression of additive spatially correlated Gaussian noise in images

Mykola Ponomarenko (Tampere University); Oleksandr Miroshnichenko (National Aerospace University); Vladimir Lukin (National Aerospace University); Karen Egiazarian (Tampere University)

Thursday, 24 June

09:00 – 10:00 Plenary 2 (W. Heidrich): Deep Optics — Joint Design of Imaging Hardware and Reconstruction Methods

10:00 – 10:15 *Coffee break*

10:15 – 11:00 Session 5: Image and Video Analysis I

Session chair: Aladine Chetouani (Université d'Orléans, France)

10:15 S5.1 – Shen-Castan based edge detection methods for Bayer CFA images
Baptiste Magnier (IMT Mines Ales CERIS); Arezki Aberkane (Audensiel Technologies); Zian Li (IMT Mines Alès)

10:30 S5.2 – Improved line detection in images using neural networks and DTE subclassifiers
Jerome Treboux (HES-SO Valais - IIG); Rolf Ingold ("Fribourg University, CH"); Dominique Genoud (HES-SO Valais - IIG)

10:45 S5.3 – A deep learning-based approach for camera motion classification
Kaouther Ouenniche (Télécom sud Paris); Ruxandra TAPU (Institute Mines-Telecom, Telecom SudParis / University Politehnica of Bucharest); Titus Zaharia (Institute Mines-Telecom, Telecom SudParis)

11:00 – 11:15 *Coffee break*

11:15 – 12:00 Session 6: Image and Video Analysis II

Session chair: Sayed Ali Amirshahi (NTNU, Norway)

11:15 S6.1 – MSHSCNN: Multi-scale Hybrid-Siamese Network to differentiate visually similar character classes
Debabrata Pal (Honeywell); Abhishek Alladi (Honeywell); Yashwanth Pothireddy (Honeywell); George Koilpillai (Honeywell)

11:30 S6.2 – Implementation and Accuracy Evaluation of Fixed Camera-Based Object Positioning System Employing CNN-Detector
Tero Partanen (Tampere University); Philipp Muller (Tampere University); Jussi Collin (Tampere University); Jani Björklund (Tampere University)

11:45 S6.3 – Performance of Texture Compression Algorithms in Low-Latency Computer Vision Tasks
Jakub Žádník (Tampere University); Markku Mäkitalo (Tampere University); Jussi Iho (Tampere University); Pekka Jääskeläinen (Tampere University)

12:00 – 14:00 *Lunch break*

14:00 – 15:00 Plenary 3 (S. Cotin): Augmented Surgery: how numerical simulation, computer vision and machine learning can help reduce risks in the operating room

15:00 – 16:45 Project dissemination session

Session chairs: Titus Zaharia (Télécom SudParis, France), Sony George (NTNU, Norway)

15:00 P1 – ApPEARS
Jon Yngve Hardeberg, NTNU

- 15:15 P2 – MUVapp
Jon Yngve Hardeberg, NTNU
- 15:30 P3 – AITV
Matthieu Parmentier/Ruxandra Tapu - France TV/ Télécom SudParis
- 15:45 P4 – SILENSE
Marius Preda, Télécom SudParis
- 16:00 P5 – RealVision
Soren Forchhammer, Fotonik, DTU
- 16:15 P6 – ALAMEDA
P. Tsakanikas, ICCS
- 16:30 P7 – HiPerNav
Ole Jacob Elle, University of Oslo
- 16:45 – 17:00** *Coffee break*
- 17:00 – 17:45** **Panel discussion:**
Visual Information Processing And Machine Learning At The Crossroads

Session chairs: Mohamed Deriche (KFUPM, KSA), Mihai Mitrea (Télécom SudParis)

Panelists :

Fernando Pereira (Instituto de Telecomunicações, Lisbon, Portugal);

Louis Chevallier (R&I ISL, Rennes, France)

Stefan Winkler (AI Singapore , the National University of Singapore);

Friday, 25 June

- 09:00 – 10:00** **Plenary 4 (A. Bouzerdoum): Semantic Segmentation for Assistive Navigation using Deep Bayesian Gabor Networks**
- 10:00 – 10:15** *Coffee break*
- 10:15 – 11:30** **Session 7: Visual Object Tracking and Surveillance**
Session chair: Stefania Colonnese (Sapienza University Roma, Italy)
- 10:15 S7.1 – Geometric Deep Learning for Multi-Object Tracking: A brief Review
Zolbayar Shagdar (NTNU); Mohib Ullah (NTNU); Habib Ullah (Department of Physics and Technology UiT The Arctic University of Norway); Faouzi Alaya-Chekh (NTNU at Gjøvik, Norway)
- 10:30 S7.2 – A Comparison of OpenCV Algorithms for HumanTracking with a Moving Perspective Camera
Olfa Haggui (IMT Mines Alès); Baptiste Magnier (IMT Mines Ales CERIS); Matossouwe Agninoube Tchelim (IFSTTAR)
- 10:45 S7.3 – Anomalous human action detection using a cascade of deep learning models

Hamza Riaz (Dublin City University); Muhammad Uzair (University of South Australia); Habib Ullah (Department of Physics and Technology UiT The Arctic University of Norway.); Mohib Ullah (NTNU)

11:00 S7.4 – FlipReID: Closing the Gap between Training and Inference in Person Re-Identification

Xingyang Ni (Tampere University); Esa Rahtu (Tampere University)

11:15 S7.5 – A color-based re-ranking process for people re-identification

Zahra Mortezaie (shahrood university of technology); hamid hassanpour (shahrood university of technology); Azeddine Beghdadi (L2TI, University Sorbonne Paris Nord)

11:30 – 11:45 *Coffee break*

11:45 – 12:30 Session 8: Learning-Based Methods

Session chair: Mohib Ullah (NTNU, Norway)

11:45 S8.1 – Selective Probabilistic Classifier Based on Hypothesis Testing

Saeed Bakhshi Germi (Tampere University); Esa Rahtu (Tampere University); Heikki Huttunen (Visy Oy)

12:00 S8.2 – Ensemble-based instance relevance estimation in multiple-instance learning

Muhammad Waqas (National University of Computer and Emerging Sciences); MA Tahir (National University of Computer and Emerging Sciences); Rizwan Qureshi (City University of Hong Kong)

12:15 S8.3 – Sample selection for efficient image annotation

Bishwo Prakash Adhikari (Tampere University); Esa Rahtu (Tampere University); Heikki Huttunen (Tampere University)

12:30 – 12:45 Awards and Closing Ceremony