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Ingénierie des Systèmes, Mécanique, énergétique

جامعة محمد الخامس بالرباط
Université Mohammed V de Rabat

13th International Conference on Image Processing Theory, Tools and Applications
(IEEE IPTA 2024, https://ipta-conference.com/ipta24/)
October 14-17, 2024 – Rabat, Morocco

DETAILED PROGRAM

October 14, 2024

8h30 Reception

9h00 Opening ceremony

9h30 Keynote Speaker I

Maria Martini, Kingston University London
Title: "Delivering Immersive and Meaningful Visual Experience"

10h30 Tea and coffee Break

11h00 Special Session I: Machine Learning / Deep Learning for Healthcare

AI and angiosome based analysis of diabetic foot thermal images for the diagnosis of ulcer risk
Hafid ELFAHIMI (IRF-SIC Ibn Zohr university)*; Doha Bouallal (IRF-SIC Ibn Zohr university); Hassan Douzi (IRF-SIC Ibn Zohr university); Rachid Harba (PRISME Orleans University); Said Boujerfaoui (IRF-SIC Ibn Zohr university)

Generation of synthetic segmented 3D-CT scan of healthy Pelvic bone
Abdelbasset BRAHIM (Abys Medical)*; Marwa ABDERRAHIM (Abys Medical); Jean-Marie HOUSSEAU (Abys Medical); Arnaud DESTAINVILLE (Abys Medical); Marc LEGEAIS (IRSA SIMAGO)

Diabetic Retinopathy Detection Through Retinal Vessel Segmentation Using Swin U-Net Model
Zineb Farahat (Mines School of Rabat)*; nabila zrira (ENSMR); NISSRINE SOUISSI (Mines School of Rabat); SAJID RAHIM (McMaster university, Hamilton, Ontario, Canada); AQSA RAHIM (McMaster university, Hamilton, Ontario, Canada); NABIL NGOTE (Abulcasis International of Health Sciences)

Diabetic Retinopathy Screening within Unlabeled Dataset based on Least Squares Cycle-GAN Domain Transfer
Zineb SADOK (SIGER Laboratory, USMBA_FST Fez, Morocco & LIGM Laboratory, UGE_ESIEE Paris, France)*; Mohamed AKIL (Gustave Eiffel University_ESIEE PARIS); Rostom Kachouri (Gustave Eiffel University_ESIEE PARIS); Ali Ahaitouf (Laboratory of Intelligent systems, Georesources and Renewable energies, Faculty of science and technology, University Mohammed Ibn Abdeallah, Fez, Morocco)

Impact of Economic Income on Mental Health Post-Quarantine
Siham AKIL (Hassan II University of casablanca)*; Sara Sekkate (ENSAM); Abdellah Adib (FSTM)

12h40 Lunch

14h20 Tutorial

Dr. Hicham Badri
TITLE: « Model Quantization Techniques for Efficient Transformer Models »

15h50 Tea and coffee Break

16h10 Regular Session I: Medical Imaging Applications 1

Fall Detection in Hospital Rooms with Probabilistic Graphical Models
Jacobo Gonzalez de Frutos (Aalborg University)*; Kamal Nasrollahi (Milestone Systems, Aalborg University); Mia Siemon (Milestone Systems, Aalborg University)

Sinogram-based data augmentation by extracting feature points in the Radon space
Nina Lassalle-Astis (CETIM Sud-Ouest)*

Insights Into YOLOv9-Based Breast Mass Detection Using Ultrasound Images
Nouhaila Erragzi (University Mohammed V, faculty of Science)*; Abdelghani Moussaid (National Superior School of Mines); nabila zrira (ENSMR); Ibtissam Benmiloud (National Superior School of Mines); Rajaa Sebihi (University Mohammed V, faculty of Science); Nabil Ngote (National Superior School of Mines)

17h10 Special Session II: Advancements in Object Detection: Harnessing Non-Conventional Sensors and Sensor Fusion

Comparative Analysis of Conventional Object Detection Models on Fisheye Images
Sarra Bouzayane (Caplogy)*

Real-Time Human Activity Recognition using Wi-Fi CSI: A Deep CNN Architecture Approach
Karim Meridja (Caplogy)*

Principal Curvatures as Pose-Invariant Features of Depth Maps for RGB-D Object Recognition
Maxime Morisset (University of Bordeaux)*; Marc Donias (University of Bordeaux); Christian Germain (University of Bordeaux)

Self-supervised Animal Detection, Tracking & Re-Identification
Muhammad Moosa (NTNU); Faouzi Alaya-Chekh (NTNU at Gj vik, Norway); Azeddine Beghdadi (NTNU); Mohib Ullah (NTNU)*

October 15, 2024

8h30   Reception

9h00   Keynote Speaker II

    Dr. Islem Rekik, Imperial College of London
    TITLE : "A New Breed of GNNs for Medical Applications and Beyond"

10h00 Tea and coffee Break

10h30 Regular Session II: Neural Networks: Quantization and Security

Quantization Effects on Neural Networks Perception: How would quantization change the perceptual field of vision models?
Mohamed A KERKOURI (Université d'Orléans)*; Marouane Tliba (University of Orleans); Aladine Chetouani (Université d'Orléans/Université Sorbonne Paris Nord, France); Alessandro Bruno (Department of Business, Economics, Law, Consumer Behavior. IULM University)

Attack of Bit Flipping Image Obscuration Approach
Norman Hutte (LIRMM, Univ. Montpellier, CNRS)*; William J.-P. Puech (Univ. Montpellier, France)

Data Processing Techniques for Modern Multimodal Models
Yinheng Li (Columbia University)*; Han Ding (Columbia University); Hang Chen (New York University)

11h30 Special Session III: Recent advancements in Multimedia Compression and Perceptual Quality Assessment of Images and Videos

MHyNet-PC: A Multi-modal Hybrid No-Reference Framework for Point Cloud Quality Assessment
Jit Chatterjee (KU Leuven)*; Michiel Creemers (KU Leuven); Jens Coosemans (KU Leuven); Maria Torres Vega (Universiteit Gent)

Content characterization for bit rate estimation in live video compression and delivery
Shaymaa S Al-juboori (Kingston University); Maria Martini (Kingston University, UK)*

Adaptive Pixel-based Efficient Motion Estimation for Surveillance Video Coding
Tushar Shinde (IIT Madras Zanzibar)*

Blind point cloud quality assessment via 3D visual saliency and point-based neural network
Salima Bourbia (LRIT, Mohammed V University, | L@bISEN, Vision-AD, ISEN Yncréa Ouest/Nantes|Prisme, Orleans University)*; Ayoub KARNE (ISEN Yncréa Ouest, Nantes); Aladine Chetouani (Université d'Orléans/ Université Sorbonne Paris Nord, France); Mohammed El Hassouni (FLSH, Mohammed V University in Rabat); Maher Jridi (ISEN Yncréa Ouest, Nantes)

12h50 Lunch

14h30 Social Event

19h00 Gala Diner

October 16, 2024

8h30 Reception

9h00 Regular Session III: Deep Learning Applications

Information Extraction from Scanned Invoice Documents Using Deep Learning Methods
Dionysis Goularas (Yeditepe University)*; Ufuk Ilke Avci (Yeditepe University); Emin Erkan Korkmaz (Yeditepe University); Baris Deveci (Intecon Informatics and Concultancy)

An IA Solution for Web Accessibility and Image Classification
Laura NORESKAL (Sogeti by Capgemini)*; Guillaume FEUILLOLEY (Sogeti by Capgemini); Simon-Pierre Charbel (Sogeti by Capgemini)

Transfer Learning for Artwork Attribution: Assessing the Importance of the Artist's Signature
Noam Schmitt (Telecom SudParis); Yoann Loesch (Telecom SudParis); Nesma Houmani (TelecomSudParis)*; Sonia Garcia-Salicetti (TELECOM SudParis, France)

AntoNet: a small linear contrast-enhancing CNN for pixel-wise detection
Antonio Soggia (i3s/Thales DMS)*; Lionel Fillatre (Université Côte d'Azur, CNRS, I3S); Laurent Deruaz-Pepin (Thales DMS)

HTLDIFF: Handwritten Text Line Generation - A Diffusion Model Perspective
Aniket Anand Gurav (HIOF)*; Sukalpa Chanda (Østfold University College); Narayanan C Krishnan (IIT Palakkad)

10h40 Tea and coffee Break

11h10 Regular Session IV: Medical Imaging Applications

High Performance and Low Complexity Retinal Vessel Segmentation Method based on Extended DCNN
Abdelfattah mouna (ISITCom Hammam-Sousse, University of Sousse, Sousse, Tunisia)*; yaroub elloumi (ISITCom Hammam-Sousse, University of Sousse, Sousse, Tunisia); Rostom Kachouri (Gustave Eiffel University_ESIEE PARIS)

Ensemble learning based method for severity detection of Age-Related Macular Degeneration
Hedi Missaoui (ISITCom Hammam-Sousse, University of Sousse, Sousse, Tunisia)*; Yaroub Elloumi (Gustave Eiffel University_ESIEE PARIS); Rostom Kachouri (Gustave Eiffel University_ESIEE PARIS)

SWE-Net: Sliced-Wasserstein EfficientNet for Learning Discriminative Texture Features in Early Diagnosis of Knee Osteoarthritis
Yassine Nasser (University of Orleans); Mohammed El Hassouni (Mohammed V University in Rabat)*; Aladine Chetouani (Université d'Orléans – Université Sorbonne Paris Nord, France); Rachid Jennane (University of Orleans)

12h10 Lunch

14h00 Regular Session V: Compression, Segmentation and Forgery Detection

Multi-View Graph Neural Network for Semantic Image Segmentation
Elie Karam (Université d'Angers)*; Nisrine Jrad (Université Catholique de l'Ouest); Patty Coupeau (Université d'Angers); Jean-Baptiste Fasquel (); Fahed Abdallah (Lebanese University)

Image Forgery Detection Using Machine Learning: Exploring Image Quality Assessment and Sharpness estimation
Oussama ZEGLAZI (LRIT, Faculty of Sciences); Noureddine MOHTARAM (LRIT, Faculty of Sciences)*

Limits of the current H.264 video crypto-compression methods
Erwan Reinders (LIRMM)*; Pauline Puteaux (CNRS, CRIStAL); Samuel Brau (DroneGeofencing); William J.-P. Puech (Univ. Montpellier, France)

Boxes to segmentation to boxes again for a better detection
Theo Oriol (AMIS)*; Jérôme Pasquet (AMIS, Université Paul Valéry, Montpellier; UMR TETIS, Univ. Montpellier, AgroParisTech, Cirad, CNRS, Irstea, Montpellier); Lionel Pibre (AMIS, Université Paul Valéry, Montpellier; UMR TETIS, Univ. Montpellier, AgroParisTech, Cirad, CNRS, Irstea, Montpellier); Zamirddine MARI (Department of DGA Techniques Navales, Toulon, France)

Video motion and Decryption. A Comparative Study for Compressed Videos.
Anastasiia Voitenko (University of Oulu); Mourad Oussalah (University of Oulu)*

15h40 Tea and coffee Break

16h10 Regular Session VI: Object Tracking, Synthesis and Recognition

PrecipitaTrack: A Comprehensive Dataset for Advancing Object Tracking in Autonomous Vehicles
Bidisha Samanta (Jadavpur University); Sriparna Banerjee (ETCE, Jadavpur University)*; SHELI SINHA CHAUDHURI (JADAVPUR UNIVERSITY); Khalifa Djemal (Université d'Evry); Amir Ali Feiz (Université d'Evry Val d'Essonne); Sos Agaian (Tufts University)

A Comparative Study: Error Analysis and Model Efficiency in Event-Based Action Recognition
Mira Adra (Eurecom)*; Jean-Luc Dugelay (EURECOM, Campus SophiaTech); Cecile Ichard (GTD International)

CALLM: Cascading Autoencoder and Large Language Model for Video Anomaly Detection
Apostolos Ntelopoulos (Aalborg University)*; Kamal Nasrollahi (Milestone Systems, Aalborg University)

Motion-Oriented Diffusion Models for Facial Expression Synthesis
Hamza BOUZID (Mohammed V University in Rabat)*; Lahoucine Ballihi (Mohammed V University in Rabat)

October 17, 2024

8h30   Reception

9h00   Regular Session VII: Advances in imaging: Depth, Detection, and Analysis

Comparative analysis and performance evaluation on depth mapping : light field cameras versus kinect sensor

Sabrine Djedjiga Oucherif (CNRS-Laboratoire IMM)*; Mohamad Motasem Nawaf (CNRS-Laboratoire LIS); Jean-MArc Boï (CNRS-Laboratoire LIS); Lionel Nicod (Centre d'Etudes et de Recherche en Gestion d'Aix-Marseille); Elodie Mallor (Centre d'Etudes et de Recherche en Gestion d'Aix-Marseille); Severine Dubuisson (Aix-Marseille University); Djamal Merad (CNRS, Laboratoire LIS)

Image Drift: Introducing Gaussian Split Detector

Maxime M Fuccellaro (Univ. Bordeaux)*; Akka Zemmari (Univ. Bordeaux); Laurent Simon (Univ. Bordeaux)

Gait Deviation Assessment: from Signal to Image Analysis

Lorenzo Hermez (Télécom SudParis)*; Nesma Houmani (TelecomSudParis); Sonia Garcia-Salicetti (TELECOM SudParis, France); Vincent Vigneron (IBISC, Université Evry); Omar Galarraga (UGECAM Coubert)

Hyperspectral Image Dimensionality Reduction using Inter-Band Cross-Correlation and K-means Clustering Algorithm

Ndu Henry (Leeds Beckett University); Akbar Sheikh Akbari (Leeds Beckett University)*; Koushlendra Kumar Singh (NIT Jamshedpur)

Harnessing Deep Learning For Diseased and Fresh Orange Detection: A Comparative Analysis Of YOLO V8 and RT-DETR

Kyamelia Roy (Siliguri Govt. Polytechnic)*; Md. Hatif Osmani (Jadavpur University); Tapan Kumar Pal (Kanyapur Polytechnic); Sheli Sinha Chowdhury (); Khalifa Djemal (Université d'Evry); Amir Ali Feiz (Université d'Evry Val d'Essonne)

10h40 Tea and coffee Break

11h10 Special Session IV: Machine Learning Meets Complex Networks: From Computer Vision to Social Graphs (4)

Deep Learning for Automated Localization of Gaze Points and Climbing Holds

Youssef Chahir (GREYC Laboratory CNRS UMR 6072 Departement of Computer Science University of Caen Lower-Normandy)*

Enhancing Link Prediction Accuracy with a Novel Similarity Metric

AYOUB JIBOUNI (Higher School of Technology Dakhla, Ibn Zohr University.)*; DOUNIA LOTFI (LRIT,Faculty of Sciences Mohammed V University); SAMIR BARA (High School of Technologytical Engineering (GIM)); NAOUAL NASSIRI (Higher School of Technology Dakhla, Ibn Zohr University.)

Hybrid Inception V3 and Multi-Layer Perceptron Approach with Extreme Gradient Boost Classifier for Autism Spectrum Disorder Classification
FATIMA EZ-ZAHRAA BAZAY (MOHAMMED V UNIVERSITY)*; Ahmed Drissi el maliani (Mohammed V University Rabat)

Learning Character Network Features for Movie Genre Classification
Majda Lafhel (Mohammed V University in Rabat)*; Mohammed El Hassouni (FLSH, Mohammed V University in Rabat); Hocine Cherifi (University of Burgundy)

12h30 Closing Ceremony

13h00 Lunch