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IN THIS Issue

From the Editor's Desk:
"Hello from Heydi Méndez Vázquez, EiC"

Google Scholar Profile
email: hmendez@cenatav.co.cu

Dear Colleagues and Readers,

I am glad to become the new Editor-in-Chief of the IAPR Newsletter. I have accepted this role with the goal to contribute in some way to the IAPR Community.

From the beginning of my journey in PR research, the *IAPR Newsletter* has been an effective way to be updated on news, relevant conferences and resources. It also has been—and remains—an excellent way to be in touch with the international community through interviews with early and later career researchers.

I want to start my work in the new role by expressing my gratitude to all IAPR members, contributors, editors and to the IAPR ExCo who have made it possible to maintain the high quality and dissemination of the publication.

This can only be achieved with help and cooperation. Thus, I am expecting a good collaboration with the *Newsletter* editorial staff, as well as with Arjan (IAPR President) and the rest of the ExCo to continue providing our community valuable and interesting information.

My aspiration is that this newsletter become attractive and familiar to every member of IAPR. Therefore, I will be glad to receive contributions, ideas, comments and suggestions for improving its contents. To start things up, in this edition, in addition to the usual content, we will launch a new column devoted to Equality, Diversity and Inclusion efforts and issues. Other ideas will be welcome.

You can contact me at: *hmendez@cenatav.co.cu*.

Heydi Méndez Vázquez, CENATAV, Cuba.
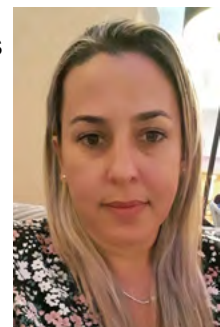
C A L L S f o r P A P E R S

For the most up-to-date information on IAPR-supported conferences, workshops and summer schools,
please visit the IAPR web site: *www.iapr.org/conferences/*
+ denotes pending IAPR Conferences & Meetings Approval +

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MCPR 2023
15th Mexican Conference on Pattern Recognition
Tepic, Nayarit, México
Deadline: Jan. 30, 2023
Dates: Jun. 21-24, 2023

IWBF 2023
11th IAPR/EEE International Workshop on
Biometrics and Forensics
Barcelona, Spain
Deadline: Jan. 30, 2023
Dates: Apr. 19-20, 2023

SSB 2023
20th International Summer School for Advanced Studies
on Biometrics for Secure Authentication
Coimbra, Portugal
Application deadline: Feb. 15, 2023
Dates: Jun. 5-9, 2023

IbPRIA 2023
11th Iberian Conference on
Pattern Recognition and Image Analysis
Alicante, Spain
Deadline: Feb. 19, 2023
Dates: Jun. 27-30, 2023

DeLTA 2023
4th International Conference on
Deep Learning Theory and Applications
Rome, Italy
Deadline: Feb. 23, 2023
Dates: Jul. 13-14, 2023

ICPRS 2023
13th International Conference on
Pattern Recognition Systems
Guayaquil, Ecuador
Deadline: Mar. 6, 2023
Dates: Jul. 4-7, 2023

MVA 2023
18th International Conference on
Machine Vision Applications
Hamamatsu, Japan
Deadline: Mar. 31 2023
Dates: Jul. 23-25, 2023

GbR 2023
13th International Workshop on
Graph-based Representations in Pattern Recognition
Vietri sul Mare, Italy
Deadline: Apr. 14, 2023
Dates: Sep. 6-8, 2023

ACPR 2023
7th Asian Conference on Pattern Recognition
Kitakyushu, Japan
Deadline: May. 15, 2023
Dates: Nov. 5-8, 2023

CIARP 2023
26th Iberoamerican Congress on Pattern Recognition
Coimbra, Portugal
Deadline: Jul. 1, 2023
Dates: Nov. 27-30, 2023

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Prizes to be Awarded at ICPR 2024
Open Call for Prizes to be Awarded at ICPR 2024:
King-Sun Fu Prize
J. K. Aggarwal Prize
Maria Petrou Prize

ICPR 2024
27th International Conference on Pattern Recognition
Kolkata, India
Deadline: May 1, 2024
Dates: Dec. 1–5, 2024

https://iapr.org/icpr2024

ICPR 2024 INDIA

27TH International Conference on Pattern Recognition
December 01-05, 2024, Kolkata, India

Calls from IAPR Committees

From the IAPR Education Committee:

Call for Applications for IAPR Research Scholarships
https://iapr.org/docs/IAPR-EC-RS-Call.pdf

COVID-19: Applications are welcome, assuming pandemic travel regulations allow a visit during the proposed period.

Description: IAPR Research Scholarships seek to make possible mobility across institutions and international boundaries for Early Career Researchers working in fields within the scope of the IAPR's interests. The scholarship covers round trip travel & basic living expenses for a visit of less than 12 months.

Requirements: The candidate must be a full-time researcher with between one and eight years experience. The candidate must also be a member of an IAPR member society.

Contact information: IAPR Secretariat, c/o Linda O'Gorman, *secretariat@iapr.org*

From the IAPR Industrial Liaison Committee:

Call for Internship Listings for the IAPR Internship Brokerage Page
for Companies with Internships Available
and for
Students seeking internship opportunities
https://iapr.org/internships

Description: The IAPR-ILC wishes to promote opportunities for students to undertake internships at companies working in Pattern Recognition, AI, Computer Vision, Data Mining, Machine Learning, etc. We propose to do this by having a web-based internship listing service. Companies can list their internship opportunities; students can browse the listings and contact the company.

For companies with internships to list:
(see examples at the URL above)

Please email your listings as follows:

To: *webmaster@iapr.org*
Subject: IAPR internship listing
Details:
- Host:
- Location:
- Post Type:
- Specialty:
- Funded:
- Length:
- Degree & Visa Requirements:
- Internship start date:
- Application closing date:
- Details:
- Contact:

For students:
If you are a student, please visit the web site listed above.

NOTE: At the time of publication, there were 44 opportunities listed and around 17,000 accesses since November 2017.

From the IAPR Executive Committee (ExCo):

Call for Proposals for Summer/Winter Schools
https://iapr.org/conferences/summerschools.php

Deadline schedule:

Deadline:	School dates:
February 1st	April-July
June 1st	August-November
October 1st	December-March

Summer/winter schools are training activities that expose participants to the latest trends and techniques in the particular pattern recognition field.

To be eligible for a grant, the organizers must work through at least one of the IAPR's Technical Committees as they develop and present the proposal.

How to Submit: Proposals for IAPR funded summer/winter schools should be submitted to IAPR Secretariat Linda O'Gorman by email (*secretariat@iapr.org*). A PDF attachment containing all the required information is appreciated.

For detailed guidelines on the proposal, see the ExCo Initiative on Summer Schools.

Open Calls for IAPR Prizes @ ICPR 2024

From the IAPR King-Sun Fu, J. K. Aggarwal, and Maria Petrou Prize Committees:

Open Call for Nominations for the

2024 King-Sun Fu Prize (full CfN: https://iapr.org/fellowsandawards/awards_kingsunfu.php)
2024 J. K. Aggarwal Prize (full CfN: https://iapr.org/fellowsandawards/awards_aggarwal.php)
2024 Maria Petrou Prize (full CfN: https://iapr.org/fellowsandawards/awards_petrou.php)

Nomination letters accompanied by the nominee's CV are requested by December 1, 2023.

Nomination and Endorsement forms may be modified/submitted up until the final deadline that will be set by the K. S. Fu, J. K. Aggarwal, and Maria Petrou Prize Committees.

The 2024 Prizes will be presented at the
27th International Conference on Pattern Recognition (ICPR 2024)
Kolkata, India
December 1-5, 2024

The **King-Sun Fu Prize**, the IAPR's highest honor, is given in honor of the memory of Professor King-Sun Fu, who was instrumental in the founding of IAPR, served as its first president, and is widely recognized for his extensive contributions to the field of pattern recognition. The Prize is given to a living person in recognition of an outstanding technical contribution to the field of pattern recognition.

The **J. K. Aggarwal Prize** is given in honor of Professor J. K. Aggarwal, widely recognized for his extensive contributions to the field of pattern recognition and for his participation in IAPR's activities. The Prize is given to a young scientist, under the age of 40 at the date of the final deadline for nominations, who has brought a substantial contribution to a field that is relevant to the IAPR community and whose research work has had a major impact on the field.

The **Maria Petrou Prize**, honors the memory of Professor Maria Petrou as a scientist and engineer of the first rank, and particularly in her role as a pioneer and role model for women researchers. She is widely recognized for her extensive contributions to the fields of image processing and pattern recognition and also made significant contributions to the growth of IAPR. The Prize is awarded to a living woman scientist/ engineer who has made substantial contributions to the field of Pattern Recognition (or a closely related field), and whose past contributions, current research activity and future potential may be regarded as a model.

Recipients of all prizes are expected to present an invited talk at the conference and to provide a contribution to the special issue of Pattern Recognition Letters that will include extended versions of all papers that received an IAPR award at ICPR 2024.

The Prize recipients shall be selected by the respective Prize Committees, subject to approval by the IAPR Governing Board, and based upon nomination criteria set out in the full CfNs on the IAPR website. Members of the IAPR Executive Committee, as well as of the respective Prize Committees, shall be ineligible for the prize and may not serve as nominators or endorsers.

Nomination and endorsement forms (see links to full CfN above) may be submitted on a preliminary basis to the IAPR Secretariat (see information below) and modified up to the final submission deadline that will be set by each Prize Committee. Only complete applications will be considered for the 2024 Prizes.

Contact information: IAPR Secretariat, c/o Linda O'Gorman, *secretariat@iapr.org*

Please see the full CfN pages on the IAPR website (links above) for links to Nomination and Endorsement forms.

Security Threats in Artificial Intelligence based Decision Making

by Ajmal Saeed Mian, IAPR Fellow

Ajmal Mian is a Professor of Computer Science at The University of Western Australia. He received a PhD degree from the same university in 2007. He is the recipient of three prestigious national fellowships from the Australian Research Council (ARC) including the recent Future Fellowship award 2022. He is a Fellow of IAPR, a Distinguished Speaker of the Association for Computing Machinery and President of the Australian Pattern Recognition Society. He received the West Australian Early Career Scientist of the Year Award 2012, the HBF Mid-Career Scientist of the Year Award 2022 and several other awards including the Excellence in Research Supervision Award, EH Thompson Award, ASPIRE Professional Development Award, Vice-chancellors Mid-career Research Award, Outstanding Young Investigator Award, and the Australasian Distinguished Doctoral Dissertation Award.

His research interests are in 3D computer vision, adversarial machine learning and video analysis. He made significant contributions to 3D computer vision at a time when 3D sensors were rare. His research on 3D face analysis and its applications beyond facial recognition to autism, gender studies and sleep apnoea received great interest from the community. He has recently contributed in geometric deep learning from point clouds and meshes, with applications ranging from human action recognition and athlete performance analysis to semantic segmentation, object detection, multiple object tracking and self-localization. His works include pioneer algorithms for dense 3D face correspondence, million scale 3D face recognition, deep learning based multiple object tracking, simultaneous object detection and tracking and training deep models on synthetic humans to achieve state-of-the-art performance on real data. He published the first and most comprehensive survey on the "Threat of adversarial attacks on deep learning in computer vision", that sparked a new line of research that focuses on exposing the vulnerabilities of deep models and using attacks to explain their decisions. This led to multiple grants from the Australian and the US Departments of Defense.

Ajmal Mian is a Senior Editor for IEEE Transactions on Neural Networks & Learning Systems and an Associate Editor for IEEE Transactions on Image Processing and the Pattern Recognition journal. He served as a General Chair of DICTA 2019 and ACCV 2018, as an Area Chair of ECCV 2022, CVPR 2022, ACM Multimedia 2020, WACV 2019, WACV 2018, ICPR 2016 and ACCV 2014.

Ajmal Saeed Mian, IAPR Fellow
ICPR 2022, Montréal
For contributions to geometric deep learning, 3D shape representation, and facial analysis

Artificial Intelligence (AI) will play a key role in future autonomous decision making systems including those deployed in critical applications such as defense, security, health, manufacturing and self-driving vehicles. Modern AI systems have demonstrated human-level performance on multiple complex tasks [1][2], which has put our faith in AI for high-risk applications.

At the center of the rise of modern AI is deep learning [3] —a technique to learn complex computational models from existing data to make precise predictions on future data. Nearly all breakthroughs in modern AI can be traced back to deep learning. However, despite being very accurate, this technique is found to be highly brittle and susceptible to malicious manipulation of the input data and the learned computational model itself [4]. An attacker can embed imperceivably small adversarial signals in the input data that can completely alter the prediction of a pristine deep learning model at the attacker's will [6].

Deep learning is also vulnerable to model poisoning, where an attacker, e.g. a vendor, can

embed a Trojan (backdoor) in a model so that the model behaves as expected under normal circumstances but changes its behaviour altogether when exposed to a specific trigger in the data for that Trojan [7][8]. The knowledge of the trigger is privy to the attacker which makes it difficult to be detected by the deep model or even a human observer. Such an attack can allow, e.g. a spy to deceive security technologies such as Smart Gates installed at airports.

Another form of threat to deep learning is poisoning of the data used to train the computational models. It is well-known that large training datasets endow more power to deep learning [3]. To leverage that, a common practice is to outsource data labeling to external companies who can poison the labelled data such that any model trained on it automatically embeds a backdoor Trojan in itself [5].

To summarize, there are three gateways for an attacker to deceive AI systems. (a) Inject imperceivable adversarial signals in the input to a clean deployed model, (b) embed Trojans in a model before it is deployed, and (c) poison the training data before a model is trained for potential Trojan embedding. All three can lead to the deception of AI based technologies.

The vulnerability of AI systems to these three types of attacks is now well established and defenses against such deception attacks are not achieving great success. Our first [4] and follow up survey [10] on the threat of adversarial attacks to deep learning highlight the lack of understanding of adversarial susceptibility of deep learning, and clearly indicate the inadequacy of current techniques to counter all three kinds of

attacks. With new methods of deep learning deception surfacing on a daily basis, there is a strong need to develop methods that can counter the plethora of current and future attacks by focusing on the intrinsic character of the manipulative signals that deceive the deep learning models. Existing methods aim only at specific individual attacks [9][10] assuming knowledge of the attacker's capabilities which limits their practicability.

Currently, there is no technique that successfully secures deep learning from adversaries in an attack/tool-agnostic manner. There is a dire need for research efforts that focus on exploring the intrinsic nature of the deceptive signals to develop generic methods for securing deep learning against all three possible attack gateways. Understanding the deceptive signals and how deep models make their decisions can potentially enable defending deep learning against not only the existing attacks, but also any future attacks. Until this is achieved, care must be taken when AI systems are deployed for critical applications.

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[2] Senior, A.W., Evans, R., Jumper, J., Kirkpatrick, J., Sifre, L., Green, T., Qin, C., ˇZ´ıdek, A., Nelson, A.W., Bridgland, A. and Penedones, H., Improved protein structure prediction using potentials from deep learning. 577(7792):706-710. Nature 2020.

[3] LeCun, Y., Bengio, Y. and Hinton, G., Deep learning. 521(7553):436-444, Nature 2015.

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[5] Gu, T., Dolan-Gavitt, B. and Garg, S., Badnets: Evaluating backdooring attacks on deep neural networks. IEEE Access, 2019.

[6] Szegedy, C., Zaremba, W., Sutskever, I., Bruna, J., Erhan, D., Goodfellow, I. and Fergus, R., Intriguing properties of neural networks. Int. Conf. Learning Representation (ICLR), 2014.

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[8] Edraki M., Karim, N., Rahnavard, N., Mian, A. and Shah, M. "Odyssey: Creation, Analysis and Detection of Trojan Models", IEEE Trans on Information Forensics and Security, 16:4521-4533, 2021.

[9] Akhtar, N., Liu, J. and Mian, A.. Defense against universal adversarial perturbations. IEEE Conference on Computer Vision and Pattern Recognition (pp. 3389-3398), 2018.

[10] Akhtar, N., Mian, A., Kardan, N., and Shah, M., Advances in adversarial attacks and defenses in computer vision: A survey, IEEE Access, 2021.

Geek & Poke
https://geek-and-poke.com/

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The History of Free

IT ALWAYS WORKED
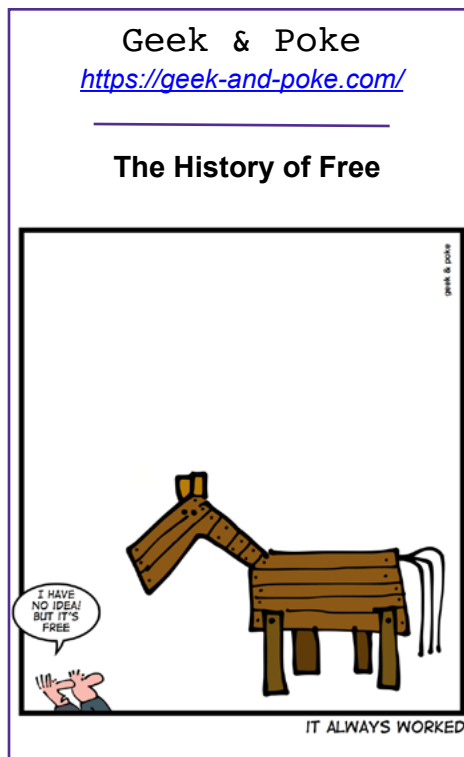
IAPR...The Next Generation

In this series of Feature Articles, the IAPR Newsletter asks young researchers to respond to three questions:

- *Briefly: How did you get involved in pattern recognition?*
- *In more detail: What technical work have you done and what is/are your current research interest(s)?*
- *How can the IAPR help young researchers?*

~Jing Dong, Editor -in-Chief

Leandro José Rodriguez-Hernandez

Leandro José Rodriguez-Hernandez received his bachelor´s degree in Informatics Engineering from University of Informatic Sciences (Cuba) in 2012. Afterwards, he joined the Digital Signal Processing Laboratory in the Department of Electrical Engineering and Computing at the Universidad Autónoma de Ciudad Juárez (México), where he obtained a Master's degree in Technology in 2019. Currently, he is pursuing a Ph. D. degree in Advanced Engineering Sciences at the same institution.

His research interests include pattern recognition focused in deep learning techniques for medical imaging with special applications in positron emission tomography (PET).

by Leandro José Rodriguez-Hernandez, PhD candidate, Universidad Autónoma de Ciudad Juárez (México)

Briefly: How did you get involved in pattern recognition?

My undergraduate studies were in computer engineering. During the research carried out for my master's studies, I proposed to use a super-resolution method, based on dictionaries applied to PET sinograms. However, I realized that the methods based on machine learning, supported by the increase in computing power, quickly climbed to first place in terms of performance in different areas of research and the Industry 4.0, opening up a wide area in the digital image-processing field.

Another determining factor was when I observed the effectiveness in tasks such as predicting diseases from medical images or predicting future diseases from patients' medical records (prognosis).

In more detail: What technical work have you done and what is/are your current research interest(s)?

Medical image processing has always been an exciting field for me. From that arose the possibility of joining the Digital Signal Processing Laboratory at the Universidad Autónoma de Ciudad Juárez to pursue postgraduate studies, under supervision of professor Dr. Humberto Ochoa Dominguez. Our research group focuses on the analysis of medical images for their improvement and early detection of diseases such as cancer.

Particularly, my research area centers on PET, which is a non-invasive medical imaging technique, useful for the detection of cancer and neurodegenerative diseases such as Alzheimer's. In a PET study, the patient is injected with a permissible amount of a radiotracer, a radioactive substance that, when decomposed, emits a positron

that interacts with electrons in the human body. As a result, a phenomenon called annihilation occurs, producing two photons that travel approximately in a straight line, but in the opposite direction. The PET tomograph records the position where the annihilation event originates, saving this information in a sinogram. Hence, from the sinogram, the final image is reconstructed. Due to the low radiotracer doses allowed, the acquisition time is short. This implies that PET images are noisy and have low resolution. Therefore, it is import to process sinograms and reconstructed images to recover valuable information for medical diagnosis.

Generally, PET image processing is performed after reconstruction. That is, the reconstructed images from the sinograms are processed to improve their quality. However, the domain of the sinogram is also feasible for improvement, because we have all the information from the scanner. In one of my works, a strategy to increase the resolution of PET images using a previously trained high-resolution dictionary for the sinograms is proposed. The sparse code of each patch is calculated and applied to the high-resolution dictionary to obtain the best high-resolution patch. The estimated high-resolution sinogram is reconstructed by the filtered backprojection algorithm and by the ordered subsets expectation maximization reconstruction algorithm. A dictionary-based super-resolution method is used on the sinogram to increase the number of valid counts and thus improve the quality of the reconstructed image.

In another work, a residual 3D convolutional neural network was proposed to enhance sinograms acquired from a small-animal PET scanner, taking advantage of the correlation that exists between adjacent sinograms. The network comprises three convolutional layers created with 3D filters. For training, we extracted 3D patches from low- and high-count sinograms. After training and prediction, the image was reconstructed from the enhanced sinogram using the ordered subset expectation maximization algorithm. The network was tested on acquired real data from a mouse. The reconstructed images and the profiles of maximum intensity projection show that the proposed method visually yields sharper images.

My current and future interests are focused on PET image enhancement and the reconstruction of PET images using machine learning techniques and realistic simulations to generate sinogram datasets to train neural networks that are capable of restoring sinograms or reconstructing PET images. I am also interested in contributing to the explainability and interpretability of the models used to reconstruct PET images.

***How can the IAPR help young researchers?***
I believe that it is very beneficial for young researchers to share and interact with other researchers. Receiving criticism, criteria and advice from different sources reinforces our knowledge as well as gives us more strategies to face research problems.

The organization of conferences and workshops around the world is a great opportunity to update and learn about new aspects in the research areas.

I think that events such as hackathons could also be promoted, not only in face-to-face format, but also via internet meetings, where state-of-the-art methods for different areas are reviewed and analyzed. In this way, new ideas and approaches can emerge, which help young researchers to guide their career as future scientists.

MCPR2023

Mexican Conference on **Pattern Recognition**

June 21-24, 2023

Tepic, Nayarit, México
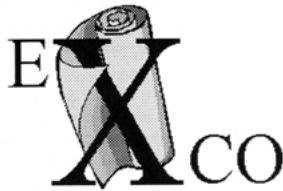
From the ExCo

The IAPR ExCo on...
IAPR Prizes: Don't wait...nominate!

by Cheng-Lin Liu (China)
IAPR 2nd Vice President
chenglin.liu@gmail.com

The IAPR gives three prestigious prizes biennially at the International Conference on Pattern Recognition (ICPR). The recipients are invited to the coming ICPR to receive the prizes and to give keynote speeches.

- The King-Sun Fu Prize is given to a living person in recognition of an outstanding technical contribution to the field of pattern recognition (PR). It honors the memory of Professor King-Sun Fu who was instrumental in the founding of IAPR.
- The J. K. Aggarwal Prize is given to a young scientist who has brought a substantial contribution to a field that is relevant to the IAPR community and whose research work has had a major impact on the field. The nominee should be under the age of 40 at the date of the final deadline for nominations.
- The Maria Petrou Prize is given to a living female scientist/engineer who has made substantial contributions to the field of PR and whose past contributions, current research activity and future potential may be regarded as a model to both aspiring and established researchers.

For previous ICPR editions, the calls for nominations (CfNs) for these prizes usually went out within one year of the ICPR and the nomination deadline was within 3-4 months of the ICPR. This time frame has sometimes proven to be too short to enable nominators and endorsers to complete the forms for their candidates.

In order to address this issue and to be sure that the CfNs reach a broad community and generate a pool of high quality nominations, the ExCo decided to advance the CfNs, and the first open CfNs for Prizes to be Awarded at the 27th ICPR (Kolkata, India, December 1-5, 2024) were posted in the *IAPR Newsletter* and on the IAPR website in October, 2022. More information on each Prize can be found here:

Nomination letters accompanied by the nominee's CV are requested by December 1, 2023.

Nomination and Endorsement forms may be modified/submitted up until the final deadline to be set by the K. S. Fu, J. K. Aggarwal, and Maria Petrou Prize Committees.

PR is a broad field embracing numerous topics, among which are PR methodology, machine learning, computer vision, image processing, multimedia analysis, and applications in various scenarios such as remote sending, surveillance, document analysis, human interaction, robotics, medical care, big data analytics. Most of the topics are covered by IAPR Technical Committees. We welcome nominations considering researchers from all sub-fields of PR, provided that the nominee is a member of the IAPR (i.e., a member of any member society of the IAPR). We encourage the member societies and technical committees of the IAPR to actively find and recommend qualified nominees. All suggestions or discussions on improving the nomination process are also welcome.

Moving Forward

Activities and Initiatives in Equality Diversity and Inclusion (EDI)

The IAPR Equality, Diversity, and Inclusion Committee is pleased to introduce this new column in the IAPR Newsletter that will be devoted to advertising activities by the EDI Committee as well as initiatives around the world that help enable **all** researchers to move forward.

As a foundation to the IAPR's efforts in this vital area, it is worth reviewing the IAPR's Policy on Equality, Diversity and Inclusion (below).

We invite our readers to inform us about any related initiatives in their countries, by their national organizations, or in their research communities. Information can be send to the email address *demarsico@di.uniroma1.it* with subject: "For the IAPR EDI Committee"

Looking forward to sharing experiences!
Maria De Marsico
Chair of IAPR EDI Commitee

IAPR Policy on Equality, Diversity, and Inclusion

OVERARCHING PRINCIPLES

The overarching principles of the policy should be as follows

• All members are treated fairly in the IAPR's dealing with them.

• All members should have the right to be free from harassment and bullying of any description, or any other form of unwanted behaviour in their dealings with IAPR.

• All members should have an equal chance to contribute to the Association and its activities and to achieve their potential, irrespective of any defining feature that may give rise to unfair discrimination.

• All members have the right to be free from discrimination because they associate with another person who possesses a Protected Characteristic or because others perceive that they have a particular Protected Characteristic, even if they do not. The Protected Characteristics are: Age • Disability • Race • Religion or belief • Sex • Gender reassignment • Marriage or civil partnership • Pregnancy and maternity • Sexual orientation.

STATEMENT OF EDI POLICY

The IAPR opposes all forms of unlawful and unfair discrimination. All our members, officers and volunteers will be treated fairly and with respect. Selection for office or any other benefit within the association will be based on the skills and ability of the candidates.

We will work to create an organisational culture where people are able to express their individual identities and celebrate diversity. People must feel confident and supported to challenge attitudes and behaviours which are deemed biased, discriminatory or disrespectful.

We want to embed our values throughout the organisation. It is only by accepting and valuing diversity that we enable people to achieve their full potential We will do all we can to ensure no individual receives less favourable treatment or is to be disadvantaged by requirements or conditions, which cannot be shown to be justifiable.

RESPONSIBILITIES

All members, officers and volunteers of the IAPR have a duty to act within this policy, ensuring that it is followed and to draw attention to any suspected discriminatory acts or practices, through the officers of the association line or the complaints procedure.

In Memoriam: Professor R. L. Kashyap

March 28, 1938 - November 11, 2022

Editor's note:

We were very sorry to learn of the passing of Prof. R. L. Kashyap, recipient of the 1990 King-Sun Fu Prize and a member of the first class of IAPR Fellows in 1994. In this section, we share a memorial tribute prepared by two of his former students, Prof. Rama Chellappa (recipient of the 2012 King-Sun Fu Prize) and Prof. Soundara Kumara along with excerpts from the IAPR's archives.

With sincere condolences to Prof. Kashyap's family, friends and colleagues,
~ Heydi Méndez Vázquez, EiC

Professor Rangasami Lakshminarayan Kashyap passed away on the 11th of November 2022 in Bengaluru, India. Prof. Kashyap received his early education at National College, Bangalore, Central College, and at the Indian Institute of Science (the degrees of ME and DIISc). Prof. Kashyap received his Ph.D from Harvard in 1966. He served as a faculty member in the department of Electrical and Computer Engineering at Purdue University, West Lafayette, Indiana, from 1966-2000.

Kashyap developed (with Harvard professor Yu-Chi Ho) the Ho-Kashyap rule, an important result (algorithm) in pattern recognition. In 1982, he presented the Kashyap information criterion (KIC) to select the best model from a set of mathematical candidate models with different numbers of unknown parameters. These parameters are adjusted to adapt the models to data (observations) that have trends and statistical variation in the measured values.

He was elected as a Fellow of the Institute of Electrical and Electronics Engineers, the International Association for Pattern Recognition (IAPR), and the Indian Institute of Electronic and Telecommunication Engineers. In 1990, he received the K.S. Fu Prize from IAPR. He was awarded the distinguished alumni award by IISc, his alma matter, in 2010.

Prof. Kashyap supervised more than 50 doctoral dissertations and mentored many young scientists and academics. He was a versatile researcher, and was known for making rigorous scholarly contributions in any fields he chose to work on.

In addition to making numerous pioneering contributions

IAPR Then and Now...
From the *IAPR Newsletter*
Volume 13 No 3, October 1990

K. S. Fu Award for 1990

Prof. R. K. Kashyap, 1990 K. S. Fu Winner

THE K. S. FU AWARD was presented to Professor R. L. Kashyap at the lOth ICPR in Atlantic City. Professor Kashyap is currently Professor of Electrical Engineering at Purdue University and has been Associate Director of the NSF-supported Engineering Research Center on Intelligent Manufacturing Systems since its inception in l985 at Purdue.

Professor Kashyap had his early education in India, obtaining both Bachelor's and Master's degrees in electrical engineering from the Indian Institute of Science. He received his Ph.D. from Harvard University in 1966. Subsequently he joined Purdue University. Professor Kashyap has made several far-reaching contributions to the field of pattern recognition, some of which will be mentioned here.

In the mid-sixties, R. L. Kashyap developed a class of algorithms which can always determine the boundary between two sets of multi-dimensional

In Memoriam: R. L. Kashyap

to control systems theory, image processing and computer vision, pattern recognition and databases, he also made significant contributions in the field of Vedic studies. His achievements include the complete translation into English of all four major and most ancient collections of verses in Sanskrit, namely Rigveda Samhita, Krishna Yajurveda Samhita, Samaveda, and Atharvaveda, consisting together of about 25,000 metrical verses in the Sanskrit of Vedas (different from classical Sanskrit).

Kashyap is the only person ever to translate all the four Vedas into English. Recognizing this significant achievement the Government of India honored him with the prestigious Padma Shri award in 2021 under the Literature and Education field.

Rama Chellappa (Johns Hopkins University) and Soundar Kumara (Penn State University)

Prof. Kashyap's Involvement in the IAPR:

1990 King-Sun Fu Prize "for fundamental contributions to pattern recognition"
IAPR Awards Committee 1990-92
IAPR Awards Committee 1992-94
IAPR Fellow 1994 "for outstanding contributions to pattern classification and computer vision"
King-Sun Fu Prize Committee 1996-98

Please see [Padma Awards](#) and [Padma Shri Prof. R. L. Kashyap](#) for more information on this prestigious award.

(IAPR Then and Now...K. S. Fu Award for 1990, continued)

patterns if one exists and give indications otherwise, leading to the so-called Ho-Kashyap algorithms which have been regarded as a fundamental contribution in the area of pattern recognition and discussed extensively in all textbooks. Later, he investigated the concept of learning in supervised pattern classification and related it to the idea of stochastic approximation and other estimation procedures. This topic is now undergoing a resurgence under the names of neural networks and stochastic annealing.

Later he focused on the development, analysis, estimation, and synthesis of parametric models for two-dimensional images and showed how model-based methods lead to better solutions for image processing tasks like image compression, image restoration, synthesis of textures, and so on. This work, co-authored with his students Challappa, Khotanzad, etc., is widely cited.

He has made fundamental contributions to the development of robust methods for the solution of image processing problems, robust in the sense that the performance of the methods does not deteriorate when there are deviations from ideal conditions, such as the image not exactly matching the model or the noise being only approximately Gaussian. His journal paper co-authored with professor Eom was perhaps the earliest one on this topic, a subject which is receiving widespread attention, as evidenced by the special research meetings devoted to it.

His most recent research deals with the use of the pattern recognition paradigm to the solution of interesting problems in the domain of discrete manufacturing, which is traditionally based on empherics. The demands for complex, integrated manufacturing systems had led to basic research on finding a more stable foundation for solving manufacturing problems, so-called 'science-based manufacturing.' Professor Kashyap's research at the Intelligent Manufacturing Systems Center at Purdue indicates that the pattern recognition paradigm, coupled with AI techniques, can indeed provide the quantitative foundation. Some examples of the manufacturing research which he has carried out with his graduate students and professional colleagues are:

- extraction of manufacturing features from the design of a part, so that a process plan can be developed for manufacturing the part;
- the development of diagnostic expert systems which can address novel fault situations;
- development of complex 3-D representation methods for parts which have to be manufactured by casting, etc..

Professor Kashyap has directed over twenty-five Ph. D. dissertations at Purdue. He has authored one book and over three hundred publications, including ninety archival journal papers.

He is the recipient of many honours, including election to the status of Fellow of the Institute of Electrical and Electronic Engineers (IEEE) and the Institution of Electronics and Telecommunications Engineering, India. He is an area editor for the journals CVGIP: Graphical Models and Image Processing and The Journal of lntelligent and Robotic Systems. He has been guest co-editor of IEEE Transactions on Software Engineering (1988) and IEEE Computer Magazine (1989). He received the best research paper award at the National Electronics Conference in 1967.

Anil K. Jain
Michigan State University

ICPR 2024 INDIA

https://iapr.org/icpr2024

27TH International Conference on Pattern Recognition
December 01-05, 2024, Kolkata, India

PRELIMINARY CALL FOR PAPERS

(Information tentatively listed and subject to final approval by IAPR. More will be added soon)

General Chairs
Umapada Pal, India
Josep Kittler, UK
Anil Jain, USA

Program Chairs
Rama Chellappa, USA
Apostolos Antonacopoulos, UK
Cheng-Lin Liu, China
Subhasis Chaudhuri, India

Workshop Chairs
Edwin Hancock, UK
P. Shivakumara, Malaysia
Stephanie Schuckers, USA
Jean-Marc Ogier, France

Tutorial Chairs
B. B. Chaudhuri, India
Guoying Zhao, Finland
Michael R. Jenkin, Canada

Competition Chairs
Richard Zanibbi, USA
Lianwen Jin, China
Laurence Likforman, France

Doctoral Consortium Chairs
Daniel Lopresti, USA
Véronique Eglin, France
Mayank Vatsa, India

Publicity Chairs
Dipti Prasad Mukherjee, India
Bob Fisher, UK
Xiaojun Wu, China

Publications Chairs
Wataru Ohyama, Japan
Ananda S. Chaudhury, India

Awards Committee Chair
Arpan Pal, India

International Liaison / Visa Chairs
Palash Ghosal, India
Yue Lu, China, China

Finance Chairs
Kaushik Roy, India
Michael Blumenstein, Australia

Organizing Chairs
Saumik Bhattacharya, India
Sk Md Obaidullah, India
Swagatam Das, India

The International Conference on Pattern Recognition (ICPR) is the flagship conference of the International Association of Pattern Recognition (IAPR) and the premier conference in pattern recognition, covering computer vision, image, speech and video processing, machine intelligence, and other related areas. It is a 5-day event that comprises the main conference, Workshops, Tutorials, different Competitions, Doctoral Consortium etc. ICPR-2024 is the 27th event of the series and it provides a great opportunity to nurture new ideas and collaborations for students, academics and industry researchers.

MAIN TOPICS OF INTEREST

ICPR-2024 has 6 tracks as follows:
► Artificial Intelligence, Machine Learning for Pattern Analysis
► Computer and Robot Vision
► Image, Speech, Signal and Video Processing
► Biometrics and Human Computer Interaction
► Document Analysis and Recognition
► Biomedical Imaging and Bioinformatics

IMPORTANT DATES

► First Call for Papers: August 2022
► Second Call for Papers: August 2023
► Paper submission open: March 1, 2024
► Paper submission deadline: May 1, 2024
► Reviews sent to authors: July 25, 2024
► Author rebuttal: August 5, 2024
► Acceptance notification: August 15, 2024
► Camera-ready submission: September 15, 2024
► Conference: December 1-5, 2024

SUBMISSION AND REVIEW

ICPR-2024 will follow a single-blind review process. Authors can include their names and affiliations in the manuscript.

PAPER FORMAT AND LENGTH

IEEE Conference Proceedings format with maximum 6 pages (without bibliography) during paper submission. The authors will have an option of purchasing up to 1 extra page to take care of the reviewers' comments, if necessary. This will have to be paid after paper acceptance and at the time of registration.

Contact: For any enquiry please contact the ICPR-2024 Secretariat via email at icpr2024@gmail.com and icpr2024@isical.ac.in

Track Chairs

Track 1: Artificial Intelligence, Machine Learning for Pattern Analysis
Larry O'Gorman, USA
Petia Radeva, Spain
Sushmita Mitra, India
Dacheng Tao, Australia

Track 2: Computer and Robot Vision
Maja Pantic, UK
C. V. Jawahar, India
João Paulo Papa, Brazil

Track 3: Image, Speech, Signal and Video processing
P. K. Biswas, India
Shang-Hong Lai, Taiwan

Track 4 : Biometrics and Human Computer Interaction
Massimo Tistarelli, Italy
Wei-Shi Zheng, China
Richa Singh, India
Vishal Patel, USA

Track 5: Document Analysis and Recognition
Xiang Bai, China
Josep Llados, Spain
Mita Nasipuri, India
David Doermann, USA

Track 6: Biomedical Imaging and Bioinformatics
Xiaoyi Jiang, Germany
Seong-Whan Lee, Korea
J. Mukhopadhayaya, India

Women in ICPR Chairs
Ingela Nyström, Sweden
Alexandra B. Albu, Canada
Jing Dong, China
Sarbani Palit, India

Sponsorship Chairs
P. J. Narayanan, India
Yasushi Yagi, Japan
Venu Govindaraju, USA
Alberto Del Bimbo, Italy

ORGANIZING / TECHNICAL PARTNERS

https://iapr.org/icpr2024
icpr2024@gmail.com / icpr2024@isical.ac.in

IAPR

IAPR ✦ Technical Committee News

IAPR TC1 Statistical Pattern Recognition Techniques
https://iapr.org/tc1
Ambra Demontis (University of Cagliari, Italy), Chair
Konstantinos Sechidis (Advanced Methodology and Data Science Group, Novartis)

IAPR TC1 aims to promote interaction and collaboration among researchers working directly in statistical pattern recognition and machine learning and among those specialized in other fields using or developing statistical techniques. In this relation, it is of particular interest to stimulate links with many mathematical statisticians, theoreticians, and practitioners alike who work at present outside the pattern recognition and machine learning communities.

The leadership team of this committee, which has been changed recently, is now composed by:

Ambra Demontis (Chair)

Kostantinos Sechidis (Vice-chair)

Battista Biggio (Advisory board member)

Simone Scardapane (Advisory board member)

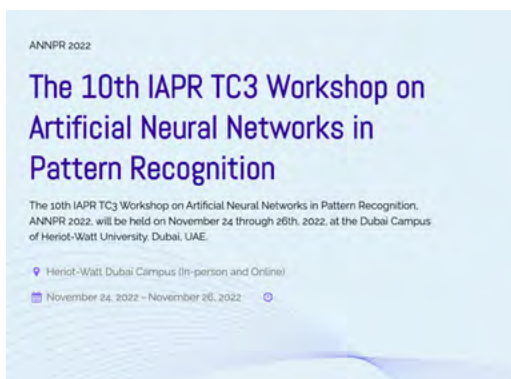If you are interested in the activities of IAPR TC1, you can visit its website (*https://iapr.org/tc1*) and join its mailing list (*iapr-tc1@googlegroups.com*).

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IAPR TC3 Neural Networks & Computational Intelligence
https://iapr.org/tc3
Hazem Abbas (Ain Shams University, Egypt), Chair
Mirco Ravanelli (Université de Montréal, Canada), Vice Chair

ANNPR 2022

The 10th IAPR TC3 Workshop on Artificial Neural Networks in Pattern Recognition

The 10th IAPR TC3 Workshop on Artificial Neural Networks in Pattern Recognition, ANNPR 2022, will be held on November 24 through 26th, 2022, at the Dubai Campus of Heriot-Watt University, Dubai, UAE.

📍 Heriot-Watt Dubai Campus (In-person and Online)

📅 November 24, 2022 – November 26, 2022 ⊙

The 10th IAPR TC3 Workshop on Artificial Neural Networks in Pattern Recognition (ANNPR 2022, *https://iapr.org/annpr2022*) was held November 24-26, 2022, at the Dubai Campus of Heriot-Watt University, Dubai, UAE.

ANNPR 2022 followed the success of the ANNPR workshops of 2003 (Florence), 2006 (Ulm), 2008 (Paris), 2010 (Cairo), 2012 (Trento), 2014 (Montreal), 2016 (Ulm), 2018 (Siena), and 2020 (Winterthur).

The scientific program included oral presentations of selected papers as well as keynotes. A full report on ANNPR 2022 will be published in a forthcoming issue of the *IAPR Newsletter*.

Also, look for information about ANNPR 2024 on the TC3 website and in this newsletter as it is available.

More IAPR ⊚ Technical Committee News

IAPR TC4 Biometrics
https://iapr.org/tc4
Julian Fiérrez (Universidad Autónoma de Madrid, Spain), Chair
Shiqi Yu (Southern University of Science andTechnology, China), Vice Chair

2022 International Joint Conference on Biometrics (IJCB 2022)

The 2022 International Joint Conference on Biometrics (IJCB 2022) was held online from October 10-13, 2022. Some highlights:

- The IJCB series combines two major biometrics research conferences, the International Conference on Biometrics (ICB) and the Biometrics Theory, Applications and Systems (BTAS) conference.

- IJCB 2022 received 203 submissions and eventually 77 papers were accepted. The acceptance rate is 37.9%.

- The conference was in hybrid mode and attended by 75 in-person participants and 55 virtual participants.

20th International Summer School for Advanced Studies on Biometrics for Secure Authentication

The 20th International Summer School for Advanced Studies on Biometrics for Secure Authentication: 20 Years of Biometrics: Reflections and Outlooks (*http://biometrics.uniss.it/*) will be held in Alghero, Italy from June 5-9, 2023. This school follows the successful track of the International Summer Schools on Biometrics held since 2003.

The lectures will be given by 18 outstanding experts in the field, from both academia and industry. An advanced feature of this summer school will be some practical sessions to better understand, "hands on", the real potential of today's biometric technologies.

The school is open to about 70 highly qualified, motivated and pre-selected participants. Phd students, post-docs, researchers, forensic examiners, police officers and professionals are encouraged to apply. The application deadline is February 15, 2023.

2023 International Joint Conference on Biometrics (IJCB 2023)

The International Joint Conference on Biometrics (IJCB) is the premier international forum for research in biometrics and related technologies. It combines two major biometrics conferences, the IEEE Biometrics Theory, Applications, and Systems (BTAS) conference and the International Conference on Biometrics (ICB), and is made possible through a special agreement between the IAPR TC-4 and the IEEE Biometrics Council.

IJCB 2023 is the 7th iteration of this major joint event and will be held in Europe, in Ljubljana, Slovenia, from September 25-28, 2023. IJCB 2023 will be held as an in-person event, and the deadline for paper submission is April 17, 2023.

And ^ More IAPR Technical Committee News

IAPR TC6 Computational Forensics
https://iapr.org/tc6
Victor Sanchez (University of Warwick, UK), Chair
Nicolas Sidère (University of La Rochelle, France)

IAPR TC6 is organizing two events this year to promote research in the area of digital forensics.

The first one is the 11th edition of the International Workshop on Biometrics and Forensics (IWBF 2023), to be held in Barcelona, Spain, on April 19th - 20th, 2023 (*https://iapr.org/iwbf2023*). IWBF is a premier international forum devoted to facilitating synergies in research and development in the areas of multimedia forensics, forensic biometrics, and forensic science.

The second one is the 4th International Workshop on Computational Document Forensics (IWCDF 2023), to be held in conjunction with the 17th International Conference on Document Analysis and Recognition (ICDAR 2023), in San Jose, California, USA, August 21-26, 2023. IWCDF 2023 aims to address the theoretical and practical issues related document forensics, especially with the explosion of the volume of digital document images and the development of consumer tools that facilitate forging.

IAPR TC10 Graphics Recognition
https://iapr.org/tc10
Jean-Christophe Burie (University of La Rochelle, France), Chair
Miki Ueno (Osaka Institute of Technology, Japan), Vice Chair
Christophe Rigaud (University of La Rochelle, France), Communications Officer

Call for papers: GREC 2023 : 15th International Workshop on Graphic Recognition

San Jose, USA, 25th August 2023 (in conjunction with ICDAR 2023)
General Chair : Jean-Christophe Burie (La Rochelle Université, France)
Program Chairs : Nathalie Girard (IRISA – Université de Rennes – France), Jorge Calvo-Zaragoza (University of Alicante – Spain), Samit Biswas (Indian Institute of Engineering Science and Technology, Shibpur – India)
Submission deadline : March 15th, 2023

Call for organising DAS 2024

Document Analysis Systems (DAS) is an IAPR sponsored workshop focusing on system-level issues and approaches. In DAS 2022 (see report in this issue), it was decided by the participants to hold DAS as a satellite workshop with annual ICDAR starting from 2024 onwards. We are seeking proposals to host the 16th Document Analysis Systems workshop co-located with ICDAR in 2024.

Anyone interested in submitting a proposal to organise DAS 2024 in Greece should drop an email to *andreas.fischer@unifr.ch* and *jean-christophe.burie@univ-lr.fr* by February 28, 2023

We are looking forward to receiving high quality proposals and making the first chapter of DAS-ICDAR 2024 a big success!

And more & More IAPR Technical Committee News

IAPR TC12 Multimedia and Visual Information Systems
https://iapr.org/tc12

Hugo Jair Escalante (INAOE and CINVESTAV, Mexico), Chair
Sergio Esclara (University of Barcelona, Spain), Vice Chair
Henning Müller (HES-SO, Sierre, Switzerland), Vice Chair
Albert Ali Salah (Utrecht University), Information Officer

in *https://www.linkedin.com/groups/8109409/*
https://twitter.com/IAPR_TC12

The ChaLearn ECCV'2022 Sign Spotting Challenge was organised at ECCV to advance and motivate research on Sign Language Recognition (SLR). The challenge used a partially annotated continuous sign language dataset of more than 10 hours of video data in the health domain and addressed the challenging problem of fine-grain sign spotting in continuous SLR. The two competition tracks were Multiple Shot Supervised Learning (MSSL) and One Shot Learning and Weak Labels (OSLWL), which is a realistic variation of a one-shot learning problem adapted to the sign language task. The winning system for MSSL was the team from University of Surrey (R. Wong, N.C. Camgoz, R. Bowden), and for the OSLWL, the team from University of Science and Technology of China (H. Hu, L. Liu, W. Zhao, H. Wu, K. Wu, W. Zhou, and H. Li).

The associated **Open Challenges in Continuous Sign Language Recognition Workshop** was also organized at ECCV, with keynotes from Andrew Zissermann, Annelies Braffort, Lale Akarun, and Richard Bowden.

Challenge webpage: *http://chalearnlap.cvc.uab.es/challenge/49/description/*
Workshop webpage: *https://chalearnlap.cvc.uab.cat/workshop/50/description*

'Challenges for machine learning using medical data' lecture given by Prof. Henning Müller at the International AI Doctoral Academy (AIDA),a joint initiative of the European R&D projects AI4Media, ELISE, Humane AI Net, TAILOR, VISION, currently in the process of formation.

Lecture webpage: *https://www.i-aida.org/events/challenges-for-machine-learning-using-medical-data/*

'Introduction to computational analysis for behavioral and clinical sciences' tutorial given by Prof. Albert Ali Salah at the 10th International Conference on Affective Computing & Intelligent Interaction (ACII), Nara, Japan.

This tutorial aimed to introduce basic tools of human behavior analysis to students of both computer science and psychology, to enable collaborations between these disciplines. It included discussions of the different application areas, examples to illustrate the possibilities, as well as challenges and pitfalls of methodology.

Tutorial webpage: *https://acii-conf.net/2022/attend/tutorials/introduction-to-computational-analysis-for-behavioral-and-clinical-sciences/*

IEEE Biometrics Council Shifeng Zhang, Ajian Liu, Jun Wan, Yanyan Liang, Guodong Guo, Sergio Escalera, Hugo Jair Escalante and Stan Z. Li received the 2020 IEEE TBIOM Best Paper Award for their paper, "CASIA-SURF: A Large-Scale Multi-Modal Benchmark for Face Anti-Spoofing."

DOI: 10.1109/TBIOM.2020.2973001

And still ^More IAPR ⊚ Technical Committee News

IAPR TC15 Graph-Based Representations
https://iapr.org/tc15
Donatello Conte (Université de Tours, France), Chair
Vincenzo Carletti (University of Salerno, Italy), Vice Chair

The chairs of the TC15 hope this newsletter finds you in good health and wish a happy new year to all.

The two important news items for this issue of the IAPR Newsletter are the following:

- We are working on finalizing the new website with new features and services. You can already take a look at the URL: *https://iapr.org/tc15*.

- We remind you of our regular workshop to be held in Italy this year. Please feel free to submit a paper. Find all the details and the CfP on the website at *https://iapr.org/gbr2023*

Best regards
Donatello and Vincenzo

**13th IAPR-TC15 International Workshop on
Graph-Based Representations in Pattern Recognition**

Vietri sul Mare (Salerno, Italy) - Lloyd's Baia Hotel
September 6 – 8, 2023
https://iapr.org/gbr2023

Important dates
Paper submission deadline: April 14, 2023
Notification of acceptance: June 2, 2023
Camera ready: July 7, 2023
Early registration: June 30, 2023

Even ^ More IAPR ⬡ Technical Committee News

IAPR TC18 Discrete Geometry and Mathematical Morphology
http://www.tc18.org
Sara Brunetti (Università di Siena, Italy), Chair
Benjamin Perret (ESIEE Paris, France), Chair
email: _tc18@tc18.org_   inscriptions: _inscriptions@tc18.org_

https://twitter.com/IAPR_TC18

Since October 2022, Sara Brunetti (*https://docenti.unisi.it/it/brunetti-0*) and Benjamin Perret (*https://perso. esiee.fr/~perretb/*) have been appointed as the new Chair and Vice-chair of TC18.

Announcements:

The second edition of the conference on Discrete Geometry and Mathematical Morphology (DGMM) *https://iapr.org/dgmm2022*) was held in Strasbourg (France), October 24-27.

The event was really successful comprising 33 high quality accepted contributions highlighting the current trends and advances in discrete geometry and mathematical morphology, ranging from purely theoretical contributions, algorithmic developments, or novel applications in image processing, computer vision, and pattern recognition.

The best student paper award, sponsored by the IAPR, was won by Josselin Lefèvre et al. for the contribution entitled "Join, Select, and Insert: Efficient Out-of-core Algorithms for Hierarchical Segmentation Trees ". The jury has also decerned a special mention to Jui-Ting Lu for the paper "A new lattice-based plane-probing algorithm".

The proceedings appeared in Springer's LNCS series (number 13493, DOI: 10.1007/978-3-031-19897-7), and a special issue with extended versions of selected outstanding contributions will be published on the Journal of Mathematical Imaging and Vision.

The release of DGtal 1.3 is now available at *https://dgtal.org/2022-11-25-dgtal-release1.3/*

The special issue of the first DGMM edition in the Journal of Mathematical Imaging and Vision, JMIV (v. 64-7) is now available:

https://link.springer.com/journal/10851/volumes-and-issues/64-7?utm_source=toc&utm_ medium=email&utm_campaign=toc_10851_64_7&utm_content=etoc_springer_20220902

DGMM 2024: The third edition of DGMM will be held in Florence, Italy, in Spring 2024.

DAS 2022
Document Analysis Systems
La Rochelle – France
22-25 May 2022
https://iapr.org/das2022

General Chair:
Jean-Marc Ogier, La Rochelle, France

Conference Chairs:

Jean-Christophe Burie (La Rochelle, France)
Mickaël Coustaty (La Rochelle, France)
Antoine Doucet (La Rochelle, France)

Program Chairs:

Seiichi Uchida (Fukuoaka, Japan)
Elisa Barney-Smith (Boise, Idaho, USA)
Véronique Eglin (Lyon, France)

by the Program Chairs

The 15th IAPR International Workshop on Document Analysis Systems (DAS 2022) brought together many researchers from Europe and abroad.

With the new remote access facilities, the workshop was not confined to a specific location. In a sense, this was truly a worldwide edition of DAS, taking place around the world in a coordinated fashion, employing a schedule we designed to support participation across a wide range of time zones. Of course, this came with some challenges, but also with interesting opportunities that caused us to rethink ways to foster social and scientific interaction in this new medium. It also allowed us to organize an environmentally friendly event, extend the reach of the workshop, and facilitate participation from literally anywhere in the world for those with an interest in our field and an Internet connection. We truly hope we managed to make the most out of a difficult situation.

DAS 2022 continued the long tradition of bringing together researchers, academics, and practitioners in the research field of document analysis systems. In doing so, we built upon the previous workshops held over the years in Kaiserslautern, Germany (1994); Malvern, PA, USA (1996); Nagano, Japan (1998); Rio de Janeiro, Brazil (2000); Princeton, NJ, USA (2002); Florence, Italy (2004); Nelson, New Zealand (2006); Nara, Japan (2008); Boston, MA, USA (2010); Gold Coast, Australia (2012); Tours, France (2014); Santorini, Greece (2016); Wien, Austria (2018); and Wuhan, China (2020).

As with previous editions, DAS 2022 was a rigorously peer-reviewed and 100% participation single-track workshop focusing on issues and approaches in document analysis and recognition. The workshop comprised presentations by invited speakers, oral and poster sessions, and a pre-workshop tutorial, as well as distinctive DAS discussion groups.

This year we received 94 submissions in total, 78 of which were in the regular paper track and 16 in the short paper track. All regular paper submissions underwent a rigorous single-blind review process where the vast majority of papers received three reviews. The reviewers were selected from the 80 members of the Program Committee and judged the originality of work, the relevance to document analysis systems, the quality of the research or analysis, and the overall presentation. Of the 78 regular submissions received, 52 were accepted for presentation at the workshop (67%). Of these,

31 papers were designated for oral presentation (40%) and 21 for poster presentation (27%). All short paper submissions were reviewed by all three program co-chairs. Of the 16 short papers received, all 16 were accepted for poster presentation at the workshop (100%).

Click on the image at right to go to the publisher's web page for this volume
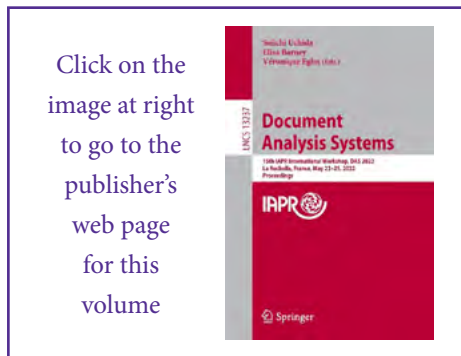
The accepted regular papers are published in Volume 13237 in the Springer Lecture Notes in Computer Science series. Short papers appear in PDF form on the DAS conference website.

The final program included six oral sessions, two poster sessions, and the discussion group sessions. There were also two awards announced at the conclusion of the workshop: the IAPR Best Student Paper Award and the IAPR Nakano Best Paper Award. We offer our deepest thanks to all who contributed their time and effort to make DAS 2022 a first-rate event for the community.

In addition to the contributed papers, the program also included two invited keynote presentations by distinguished members of the research community: Andreas Dengel from the German Research Center for Artificial Intelligence (DFKI, Germany) and Adam Jatowt from the University of Innsbruck (Austria).

We furthermore would like to express our sincere thanks to the tutorial organizer, Himanshu Sharad Bhatt from American Express AI Labs, for sharing his valuable scientific and technological insights. Special thanks are also due to our sponsors IAPR, the L3i Laboratory, AriadNext, Esker, IMDS, GoodNotes, Yooz, MyScript, ITESOFT, TEKLIA, VIALINK, and the Région Nouvelle Aquitaine and Communauté d'Agglomération de La Rochelle, whose support, especially during challenging times, was integral to the success of DAS 2022.

The workshop program represented the efforts of many people. We want to express our gratitude, especially to the members of the Program Committee for their hard work in reviewing submissions. The publicity chairs, Richard Zanibi (USA) and Joseph Chazalon (France), helped us in many ways, for which we are grateful. We also thank the discussion group chairs, Michael Blumenstein (Australia) and Umapada Pal (India), for organizing the discussion groups,

and the tutorial chairs, Rafael Dueire Lins (Brazil) and Alicia Fornes (Spain), for organizing the tutorial. A special thank you goes to the publication chair, Cheng-Lin Liu (China), who was responsible for the proceedings at hand. We are also grateful to the local organizing committee who made great efforts in arranging the program, maintaining the web page, and setting up the meeting platform with support for remote attendance. The workshop would not have happened without the great support from the hosting organization, La Rochelle University.

Finally, the workshop would have not been possible without the excellent papers contributed by authors. We thank all the authors for their contributions and their participation in DAS 2022! We hope that this program will further stimulate research and provide practitioners with better techniques, algorithms, and tools. We feel honored and privileged to share the best recent developments in the field of document analysis systems with you in these proceedings.

Local Chair:
Johan Debayle (MINES Saint-Étienne, France)
General Chair:
Prof. Sergio A. Velastin (Queen Mary University of London, UK, and Universidad Carllos III, Spain)
Others on the **Organizing Commitee**

by Cesar Astudillo(Universidad de Talca, Chile), ACHIRP Chair

Introduction
Since 2016, ICPRS (a continuation of the successful Chilean Conference on Pattern Recognition that reached its 6th edition in 2014) has been held annually. In 2022 it was organised by the École Nationale Supérieure des Mines de Saint-Étienne (France) and the Chilean Association for Pattern Recognition (ACHiRP, a member of the IAPR), endorsed by the IAPR (International Association for Pattern Recognition) and sponsored by IEEE France, IEEE France SP Chapter, IEEE Chile CIS Chapter and the IET's Vision and Imaging Technical Network. Papers are currently under the indexing process in IEEE Xplore.

ICPRS-22 aimed to create an important networking forum in which participants could discuss the present and future of pattern recognition systems. Its predecessors provided a meeting point of different disciplines (computer science, engineering, mathematics, etc.) and an opportunity for a wide range of

researchers and practitioners to discuss the many different aspects of the application of pattern recognition technologies.

General Statistics
We received 60 papers submitted via Conftoot and double-blind reviewed by an international programme committee of experts. Of these, 24 papers were finally chosen, all of which were presented at the conference and submitted for publication and indexation to the IEEE.

ICPRS-22 took place as a virtual conference with 49 Registered participants from 19 countries. The conference papers were distributed in 8 thematic sessions.

Keynotes:
Keynote 1: Addressing the food image challenge by uncertainty modeling and single- to-multi-label food recognition
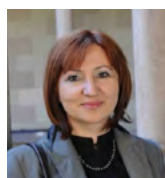
Prof. Petia Radeva (University of Barcelona, Spain)

Keynote 2: Analyzing and Generating Humans Faces

Prof. Mohamed Daoudi (IMT Lille Douai, France)

Keynote 3: Completely Contactless Palmprint Detection and Matching for Ubiquitous Personal Identification

Prof. Ajay Kumar (Hong Kong Polytechnic University, Hong Kong)

Keynote 4:Unsupervised clustering of generalized coordinates for incremental generative models in autonomous systems

Prof. Carlo Regazzoni (University of Genova, Italy)

Awards

The ICPRS-22 committee, in a unanimous decision, selected the following papers as the best student article and best article of the conference.

- **Best Paper Award:** The Best paper award was presented to Teemu Sarapisto, Lauri Koivunen, Tuomas Makila, Arto Klami, Pauliina Ojansivu for the paper entitled Camera-Based Meal Type and Weight Estimation in Self-Service Lunch Line Restaurants
- **Best Student Paper:** Best student paper award was presented to Maleakhi Agung Wijaya, Christopher Town for the paper entitled Deep Learning vs Keypoint: Which Feature Set Is Better for Shell Recognition?

Social Program

Since the event was fully virtual due to COVID restrictions, the traditional Social Program were replaced by virtual interaction. These spaces occur before the sessions and on some occasion during the breaks. It was an opportunity to interact with colleagues from other countries in an informal and relaxed atmosphere.

Conclusion

The conference was a very useful forum in which the scientific community could exchange research experience, share new knowledge and foster cooperation among research groups in pattern recognition and related areas.

Our plan is to upload the videos to a youtube channel for ICPRS. We believe that the recorded videos will be an excellent legacy and evidence of the event.

Next year, the 13th International Conference of Pattern Recognition Systems will be held in Guayaquil, Ecuador, organized by Dr. Angel Sappa, from the Escuela Superior Politécnica del Litoral.

Important Dates:

Paper submissions: 6th March '23

Notification of acceptance: 14th April '23

Camera-ready papers: 7th May '23

Early Registration: To be announced

General Chairs	**Program Chairs**
Osslan Osiris Vergara Villegas, UACJ	Osslan Osiris Vergara Villegas, UACJ
Vianey Guadalupe Cruz Sánchez, UACJ	Vianey Guadalupe Cruz Sánchez, UACJ
Juan Humberto Sossa Azuela, CIC - IPN	Juan Humberto Sossa Azuela, CIC - IPN
Jesús Ariel Carrasco Ochoa, INAOE, Mex	Jesús Ariel Carrasco Ochoa, INAOE, Mex
José Francisco Martínez Trinidad, INAOE, Mex	José Francisco Martínez Trinidad, INAOE, Mex
José Arturo Olvera López, BUAP	

Report by the General Co-Chairs

The 14th Mexican Conference on Pattern Recognition (MCPR 2022) was organized by the Departamento de Ingeniería Eléctrica y Computación of Universidad Autónoma de Ciudad Juárez, jointly with Coordinacion de Ciencias Computacionales of Instituto Nacional de Astrofísica Optica y Electronica (INAOE). MCPR 2022 was sponsored by the Mexican Association for Computer Vision, Neural Computing and Robotics (MACVNR) and the International Association for Pattern Recognition (IAPR).

MCPR 2022 was due to be held in Ciudad Juárez, Chihuahua, Mexico, but was instead held virtually due to the COVID-19 pandemic.

MCPR 2022 attracted not only Mexican researchers but also worldwide participation. We received 66 manuscripts from authors in 13 countries including Chile, Colombia, Cuba, Ecuador, Germany, Mexico, Moldova, the Netherlands, Pakistan, South Africa, Spain, the USA, and Vietnam. All members of the Program Committee are experts in many fields of pattern recognition. As a result of peer review, 34 papers were accepted for presentation at the conference and included in the volume Pattern Recognition, LNCS 13264, edited by Osslan Osiris Vergara-Villegas, Vianey Guadalupe Cruz-Sánchez, Juan Humberto Sossa-Azuela, Jesus Ariel Carrasco-Ochoa, José Francisco Martínez-Trinidad, and Jose Arturo Olvera-Lopez.

Click on the image at right to go to the publisher's web page for this volume

Osslan Osiris Vergara-Villegas
Vianey Guadalupe Cruz-Sánchez
Juan Humberto Sossa-Azuela
Jesús Ariel Carrasco-Ochoa
José Francisco Martínez-Trinidad
José Arturo Olvera-López (Eds.)

LNCS 13264

Pattern Recognition

14th Mexican Conference, MCPR 2022
Ciudad Juárez, Chihuahua, Mexico, June 22–25, 2022
Proceedings

IAPR
MCPR 2022

Springer

The oral sessions covered the topics: Pattern Recognition Techniques, Neural Networks and Deep Learning, Image and Signal Processing and Analysis, Natural Language Processing and Recognition, Robotics and Remote Sensing Applications of Pattern Recognition and Medical Applications of Pattern Recognition.

Three outstanding invited speakers were invited to give keynote addresses on topics in Pattern Recognition:

"Design of Fair, Adaptive and Robust AI Systems" by Rama Chellappa, Departments of Electrical and Computer Engineering (Whiting School of Engineering) and Biomedical Engineering (School of Medicine), Johns Hopkins University, USA.

"Sensor Autocalibration for Autonomous Cars" by Raúl Rojas, Department of Mathematics and Statistics, University of Nevada, Reno, USA.

"Biometric Interaction: The Meeting of Biometrics and Human-Computer Interaction" by Maria de Marsico, Department of Computer Science, Sapienza University of Rome, Italy.

In this edition, MCPR2022 offered two awards for the papers accepted and presented at the conference.

The award for best MCPR-IAPR paper went to Learning Dendrite Morphological Neurons Using Linkage Trees for Pattern Classification by Samuel Omar Tovias-Alanis et al..

The award for best student MCPR-IAPR paper went to these two papers:

• 3D Convolutional Neural Network to Enhance Small-Animal Positron Emission Tomography Images in the Sinogram Domain by Leandro José Rodríguez-Hernández et al. (see related article in "IAPR...the Next Generation" in this issue)

• Deep Variational Method with Attention for High-Definition Face Generation by Esteban Reyes-Saldana et al.

Authors of these three papers were invited to send extended papers to the special section devoted to MCPR in the "Pattern Recognition Letters" Journal.

We are sure that MCPR 2022 provided a forum, again in a virtual format, for enhancing the collaboration between Mexican Pattern Recognition researchers and the broader international Pattern Recognition community.

The steering committee for the MCPR decided the 15th Mexican Conference on Pattern Recognition will be held in Tepic, Nayarit, Mexico, in the last week of June 2023, organized by the Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE) Unidad de Transferencia Tecnológica Tepic (CICESE-UT3) and Coordinacion de Ciencias Computacionales of Instituto Nacional de Astrofísica Optica y Electronica.

MCPR2023

Mexican Conference on **Pattern Recognition**

June 21-24, 2023

Tepic, Nayarit, México

https://ccc.inaoep.mx/~mcpr2023/

Important Dates:

January 30, 2023 - Submission deadline

March 27, 2023 - Notification

April 3, 2023 - Camera-ready due

April 22, 2023 - Early bird registration

June 21-24, 2023 - Main conference

International Conference on Computer Vision and Machine Intelligence (CVMI)

12-13 August 2022 · IIIT Allahabad, Prayagraj, INDIA
Hybrid Mode

Patron:

Prof. Bidyut Baran Chaudhuri, Indian Statistical Institute (ISI), Kolkata
Prof. A.G. Ramakrishnan, Indian Institute of Sciences (IISc), Bangalore
Prof. P. Nagabhushan, Former Director, IIIT Allahabad
Prof. R.S. Verma, Director, IIIT Allahabad

General Chairs:

Massimo Tistarelli, University of Sassari, Italy
Bhabatosh Chanda, ISI Kolkata
Balasubramanian Raman, IIT Roorkee
Shekhar Verma, IIIT Allahabad

General Co-Chairs:

Peter Peer, University of Ljubljana, Slovenia
Abdenour Hadid, U.Polytechnique Hauts-de-France
Wei-Ta Chu, National Cheng Kung University, Taiwan
Pavan Chakraborty, IIIT Allahabad

by the Conference Chairs

The present world is witnessing rapid advancements in the field of Information Technology, specifically, in the areas of Computer Vision and Machine Intelligence, cherished by society and industry. The amount of Research and Development activities across the globe has been drastically scaled up in the past decade in these research areas. Hence, a new state-of-the-art Computer Vision and Machine Intelligence (CVMI) Conference avenue was conceived by Computer Vision and Biometrics Laboratory (CVBL), Department of Information Technology, Indian Institute of Information Technology Allahabad, India, in the 75th year of Indian Independence for researchers to disseminate their research outcomes.

The International Conference on Computer Vision and Machine Intelligence (CVMI) was started in 2022 to be held on an annual basis. With its high quality, it provides a great platform for students, academics and researchers.

The 1st edition of the conference, CVMI 2022, was a 2-day event held in hybrid mode (at IIIT Allahabad) under the endorsement of IAPR. The conference was also technically sponsored by IEEE Signal Processing Society Uttar Pradesh Chapter. The proceedings of CVMI 2022 will be published by Springer.

CVMI 2022 was a highly successful conference with 187 technical research paper submissions, and active participation from 8 countries such as Bangladesh, China, France, Germany, Japan, Sweden, USA, and India. The conference comprised of 12 technical sessions, 8 plenary and invited lectures and a doctoral symposium.

CVMI 2022 was physically inaugurated in the presence following dignitaries - Prof. Bidyut Barun Chaudhuri, Fellow IEEE, and IAPR, and Senior Professor, Indian Statistical Institute Kolkata, General Chair Prof. Bhabatosh Chanda, Fellow IAPR and Senior Professor Indian Statistical Institute

Kolkata, Prof. RS Verma, Director, IIIT Allahabad, General Chair Prof. Shekhar Verma, IIIT Allahabad, Technical Program Chair Prof. Vrijendra Singh, IIIT Allahabad and General Co-Chair Prof. Pavan Chakraborty, IIIT Allahabad.

CVMI 2022 was full of diversity from India in terms of technical contributions and, the conference received, 24.3% papers from Uttar Pradesh, 21.5% from Karnataka, 9.0% from Maharashtra, 8.5% from Tamil Nadu, 4.5% from Andhra Pradesh, 4% from Madhya Pradesh, 4% from Punjab, 3.4% from West Bengal, 2.8% Uttarakhand, 2.8% from Delhi, 1.7% from Himachal Pradesh, 1.1% from Rajasthan, and 1.1% from Meghalaya. The conference received the papers from IITs, IIITs, NITs, and many Central and State Universities. This year the conference also received technical contributions from industry and R&D organizations. So the conference was truly a conglomeration of personas from Academia, Industry, and R&D organizations.

The eight eminent persons talking at the conference as invited keynote speakers are:

• Prof. Daniel P. Lopresti (President, IAPR) from the LEHIGH UNIVERSITY, USA,

• Prof. Massimo Tistarelli from the UNIVERSITY OF SASSARI, ITALY,

• Prof. Xiaoyi Jiang from the UNIVERSITY OF MÜNSTER, GERMANY,

• Prof. KC Santosh from the UNIVERSITY OF SOUTH DAKOTA, USA,

• Prof. Wei-Ta Chu from the NATIONAL CHENG KUNG UNIVERSITY, TAIWAN,

• Prof. Bhabatosh Chanda from ISI, KOLKATA,

• Mr. Aninda Bose from SPRINGER NATURE INDIA, and

• Prof. Balasubramanian Raman from IIT ROORKEE, INDIA.

All the keynotes were very highly useful for the participants.

The IAPR best paper award was given to the research paper Target Detection using Transformer: A study using DETR by Akhilesh Kumar et al., and IAPR best Student paper was awarded to the paper Infrared and Visible Image Fusion using Morphological Reconstruction Filters and Refined Toggle-Contrast Edge Features by Manali Roy et al.

In addition to IAPR awards, this year the conference organizing committee decided to select Two CVMI 2022 best paper awards on the basis of presentation, question answers, and other subjective parameters. The CVMI 2022 best paper award was given to research paper "ED-NET: Encoder Decoder based Teaching Video Classification Network" by Anmol Gautam et al. in Computer Vision category and to research paper "Semi Supervised Semantic Segmentation for Effusion Cytology Images" by Shajahan Aboobacker in Machine Intelligence category.

The best PhD thesis award was given to Dr. Koyel Mandal from Tezpur University, India, for her thesis titled "Cluster Analysis of Transcriptomics Data to Identify Potential Cancer Biomarkers".

All the awards were presented to the winners during the valedictory ceremony at the end of the conference in the presence of Prof. Sri Niwas Singh (Fellow, Asia-Pacific Artificial Intelligence Association, Fellow, IEEE, Fellow, FNAE), Director of IIITM Gwalior as the chief guest. General Chair Prof. Balasubramanian Raman from IIT Roorkee was the Guest-of-Honor. Eminent researchers including Prof. GC Nandi and Prof. US Tiwary from IIIT Allahabad also graced the valedictory.

The IAPR CVMI proceeding shall be published by the Springer Nature's Communications in Lecture Notes in Networks and Systems Book Series. The editors of the volume will be Prof. Prof. Massimo Tistarelli from University of Sassari, Italy, Dr. Shiv Ram Dubey from IIIT Allahabad, Dr. Satish Kumar Singh from IIIT Allahabad, and Prof. Xiaoyi Jiang from University of Münster, Germany.

In conclusion, CVMI 2022 was a highly successful conference in its first edition, thereby generating new ideas and avenues for research collaborations within India and abroad.

It is decided to organize CVMI every year.

https://vnit.ac.in/cvip2022

CVIP 2022

7th International Conference on
Computer Vision & Image Processing
04-06 November, 2022 | VNIT Nagpur, Maharashtra - 440010, INDIA

General Chairs:

Pramod M. Padole, Director, VNIT Nagpur, INDIA
Petia Radeva, University of Barcelona, SPAIN
Tom Gedeon, Curtin University, AUSTRALIA

General Co-Chairs:

Balasubramanian Raman, IIT Rorokee, INDIA
Avinash Keskar, VNIT Nagpur, INDIA

Conference Chairs

Deep Gupta, VNIT Nagpur, INDIA
Subrahmanyam Murala, IIT Ropar, INDIA
Partha Pratim Roy, IIT Roorkee, INDIA
Sanjeev Kumar, IIT Roorkee, INDIA

by Deep Gupta

The seventh edition of the International Conference in Computer Vision and Image Processing (CVIP 2022) was organized by Visvesvaraya National Institute of Technology Nagpur, Maharashtra, INDIA. CVIP is a premier conference focused on image/video processing and computer vision. Previous editions of CVIP were held at IIT Ropar (2021), IIIT Allahabad (CVIP 2020), MNIT Jaipur (CVIP 2019), IIIT Jabalpur (CVIP 2018), and IIT Roorkee (CVIP 2017 and CVIP 2016). The conference witnessed extraordinary success with publications in multiple domains of computer vision and image processing.

The Team composed of Dr. Kishor Bhurchandi (VNIT Nagpur), Dr. Pritee Khanna (IIIT DMJ), Dr. Prashant Patil (Deakin University Australia), Dr. Gaurav Bhatnagar (IIT Jodhpur), Dr. Satish Kumar Singh (IIIT Allahabad) and Dr. Shiv Ram Dubey (IIIT Allahabad) organized CVIP 2022 and coordinated the event very efficiently. Moreover, the publicity

for the submissions of research articles at CVIP 2022 by Dr. Herkeerat Kaur (IIT Jammu), Dr. Nidhi Goel (IGDTUW, Delhi), Dr. Sneha Singh (CWRU, Ohio) and Dr. R.B. Keskar (VNIT Nagpur) made CVIP 2022 an altogether a great success. Also, teamwork by volunteers of VNIT Nagpur helped to overcome the different challenges during the event.

CVIP 2022 received 307 regular paper submissions that went through a rigorous review process by 350 reviewers from different national and international renowned institutes and universities. The technical program chairs, Dr. Vishal R. Satpute (VNIT Nagpur), Dr. Santosh Kumar Vipparthi (IIT Ropar), Dr. Deepak Mishra (IIST Trivandrum), Dr. Ananda S Chowdhury (Jadavpur University). Dr. Debashis Sen (IIT Kharagpur), Dr. Rama Krishna Sai Gorthi (IIT Tirupati), Dr. Saugta Sinha (VNIT Nagpur), Dr. Puneet Goyal (IIT Ropar), Dr. Emanuela Marasco (George Mason University, USA), Dr. Shital S. Chiddarwar (VNIT Nagpur) and Dr. Snigdha Bhagat (Blackrock Gurugram), coordinated the overall

review process, which resulted in the acceptance of 121 research articles. Each paper received at least 3, and several received up to 5 reviews. Out of them, 113 papers were registered for oral presentation and scheduled in 22 technical sessions around the research areas on Medical Image Analysis, Image/ Video Processing for Autonomous Vehicles, Activity Detection/ Recognition, Human Computer Interaction, Segmentation and Shape Representation, Motion and Tracking, Image/ Video Scene Understanding, Image/ Video Retrieval, Remote Sensing, Hyperspectral Image Processing, Face, Iris, Emotion, Sign Language and Gesture Recognition, etc.

Keynote Talks: CVIP 2022 was scheduled with four keynote talk sessions for each day. CVIP 2022 was commenced with a keynote talk on "Digital pathology for detection of cancer from breast FNAC and oral histopathology images" by Padma Shri Prof. Ajoy Kumar Ray (Former Director, IIEST, Shibpur and Former Professor, IIT Kharagpur) followed by keynote talks by Prof. Petia

Ivanova Radeva (University of Barcelona, Spain), Prof. Fabio Dell'Acqua (University of Pavia, Italy) and Ayellet Tal (Technion, Israel).

On the second day, Prof. Daniel P. Lopresti (Lehigh University, USA) communicated to the audience with his talk on "Research reproducibility research: Opportunities and challenges". The keynote talks by Prof. Bharat Biswal (New Jersey Institute of Technology, Newark, USA), Prof. Ramesh Jain (University of California, Irvine, USA), and Prof. Prabir Kumar Biswas (Indian Institute of Technology Kharagpur) also interacted with informative discussion on image processing and computer vision.

The last day of the conference began with an informative keynote talk on "Advances in adversarial robustness and domain adaptation of deep models" by Prof. R.

Venkatesh Babu, (Indian Institute of Science, Bangalore), and the keynote talks by Prof. Jayanta Mukhopadhyay (Indian Institute of Technology Kharagpur), Prof. Vikram M. Gadre (Indian Institute of Technology, Bombay), and Prof. Sumantra Dutta Ray (Indian Institute of Technology, Delhi) enlightened the audience with informative discussion on image processing.

Awards: CVIP 2022 presented high-quality research works with innovative ideas. All the session chairs were invited to vote for five different categories of awards: IAPR Best Paper Awards, IAPR Best Student Papers, CVIP 2022 Best paper Awards, CVIP 2022 Best Student Paper Award, Sir M. Visvesvaraya Best Student Paper Award. For each award, a paper was nominated depending on the novelty of work, technical content and presentation skills. Also, CVIP

2022 awarded Prof. Santanu Chaudhury, Director, IIT Jodhpur with CVIP Lifetime Achievement Award for his remarkable research in the field of Image Processing and Computer Vision. The awards were announced in the valedictory ceremony by Conference Chair, Dr. Deep Gupta (VNIT Nagpur).

All the accepted and presented papers will be published by Springer Series on Communications in Computer and Information Science (CCIS). All previous editions of CVIP have been successfully published in Springer Book Series. Successfully presented papers are indexed by ISI Proceedings, EI-Compendex, DBLP, SCOPUS, Google Scholar and Springer link, etc.

The organizers of the next CVIP gave us a glimpse of their plan for CVIP 2023 in IIT Jammu.

Honorary Chair:
Nadia Magnenat Thalmann, U. of Geneva, Switzerland
Advisory Chair:

David Zhang (IEEE and IAPR Fellow), Chinese U. of Hong Kong (Shenzhen), China

General Chair:

Umapada Pal (IAPR and AAIA Fellow), ISI, India

General Co-Chairs:

Qiang Wu, Beijing U. of Technology, China
Yue Lu, East China Normal U., China

Program Committee Co- Chairs

Linlin Shen, Shenzhen U., China
Kenji Suzuki, Tokyo Institute of Technology, Japan
Jinchao Feng, Beijing U. of Technology, China
Zhitao Xiao, Tiangong U., China

by the ICCPR Conference Group, *iccpr@cbees.net*

2022 11th International Conference on Computing and Pattern Recognition (ICCPR 2022) which was planned to be held in Beijing, China was held successfully online during November 17-19, 2022. The ICCPR 2022 is sponsored by Beijing University of Technology, endorsed by IAPR, supported by East China Normal University, Tiangong University, Shenzhen University, Xiamen University of Technology, Wayne State University, International Office-Beijing University of Technology, and Sino-Polish University Consortium under the "Belt and Road" Initiative.

More than 100 experts and scholars from the Japan, USA, Luxemburg, Singapore, UK, Spain, Canada, China, India, and so on attended the conference. The main objective is to create an effective platform for researchers and technical experts to share recent ideas, innovations and problem-solving techniques in the vast

areas of Computing and Pattern Recognition. It will be a great opportunity for both research and industrial communities to meet, discuss and share their research outcomes.

During the conference, the General Chair-Prof. Umapada Pal from Indian Statistical Institute delivered the Opening Remarks, then, General Co-Chair-Prof. Qiang Wu from Beijing University of Technology gave a warm welcome address.

Assoc. Prof. Jiwen Lu from Tsinghua University ("Visual Foundation Models: Architectures and Applications"), Prof. Yew-Soon Ong from Nanyang Technological University (" "Insights on Multifactorial Evolution: One-Pass Learning of a Set of Machine Learning Model Sets from Foundation Models with Neuroevolutionary Multitasking"), and Prof. Sushmita Mitra from Indian Statistical Institute (" "Harnessing AI for Healthcare") shared their research work by keynote speeches.

Ten experts and scholars from all over the world shared their latest research works by Invited Speeches.

• Prof. Shengjin Wang, Tsinghua University ("Progressively Retrieval for Person Re-identification Under Complex Scenes")

• Assoc. Prof. Huanjing Yue, Tianjin University ("Raw Image/ Video Restoration for Real Degrada-tions")

• Prof. Xiaopeng Hong, Harbin Institute of Technology ("Class Incremental Learning")

• Assoc. Prof. Weike Pan, Shenzhen University ("Multi-Behavior Sequential Recommendation")

• Prof. Chunjie Zhang, Beijing Jiaotong University ("Image Classification with Loss Guided Adversarial Training")

• Prof. Si Liu, Beihang University ("Cross-modal Intelligent Analysis")

- Prof. Guoqiang Zhong, Ocean University of China ("Faithful Image Generalization with Adversarial Learning ")

- Prof. Sen Jia, Shenzhen University ("Hyperspectral Medical Image Processing")

- Prof. Weihong Deng, Beijing University of Posts and Telecommunications ("Fairness in Face Recognition ")

- Assoc. Prof. Xialei Liu, Nankai University ("Representation Compensation Networks for Contin-ual Semantic Segmentation")

Ten oral sessions and one special session were successfully held under the joint efforts of session chairs and all presenters. They are broadly grouped in topics on "Machine Learning and Algorithm", "Target Detection", "Image Segmentation", "Data Model and Calculation", "Text Detection and Model Calculation", "Image Recognition Technology and Application", "Data Network Prediction and Analysis", "Signal Detection and Estimation", "Digital Image and Multimedia Technology", "Mode Recognition and Image Classification", and "Neural Decoding and Brain Computer Interface".

Experts and scholars from different countries and regions shared and reported their latest research works.

Finally, 11 Best Oral Presentations were selected by Session Chairs.

- Session 1: Zonghua Qu, A Method of Spacecraft Orbit Anomaly Discrimination Based on Long Short-Term Memory Network
- Session 2: Chaoqi Yan, VRGNet: A Robust Visible Region-Guided Network for Occluded Pedestrian Detection
- Session 3: Haodong Liu, MMOT: Motion-Aware Multi-Object Tracking with Optical Flow
- Session 4: Yanru Hao, An Effective Sentiment Analysis Model for Tobacco Consumption
- Session 5: Kangming Weng, ResAsapp: An Effective Convolution to Distinguish Adjacent Pixels for Scene Text Detection
- Session 6: Yixuan Fan, Portrait Interpretation and a Benchmark
- Session 7: Wuhua Xu, DQN Method Analysis for Network Routing of Electric Optical Communication Network
- Session 8: Yupei Zhang, Research on Phoneme Recognition using Attention-based Methods
- Session 9: Nan Dong, Key Points Positioning: A Two-Stage Algorithm For Single-view Point Cloud of Human Back Based on Point-wise Network
- Session 10: Junwei Zhou, Improved Fusion of Visual and Semantic Representations by Gated Co-Attention for Scene Text Recognition
- Special Session: Yun-Yiyang Qin, Immersive AR Merged with MI-BCI Hand Function Rehabilitation Training System for Stroke Patients

Based on the evaluation of the organizing committee, 2 papers were selected and awarded as the Best Paper which is sponsored by the IAPR Best Paper Award activity.

- Video Forgery Detection Using Spatio-Temporal Dual Transformer by Chenyu Liu, Jia Li, Junxian Duan, and Huaibo Huang (Chinese Academy of Sciences, China)
- Instance-level Weighted Graph Learning for Incomplete Multi-View Clustering by Jie Zhang, Lunke Fei, Yun Li, Fangqi Nie, Qiaoxian Jiang, Libing Liang, and Pengcheng Yan (Guangdong University of Technology, China)

2023 12th International Conference on Computing and Pattern Recognition (ICCPR 2023) is planning to be held in Qingdao, China, during October 27-29, 2023. We are looking forward to your support and attendance again!

General Co-Chairs:

Wei Qi Yan, Minh Nguyen, and Martin Stommel
(Auckland University of Technology, New Zealand)

by Martin Stommel

The 37th International Conference on Image and Vision Computing New Zealand (IVCNZ 2022) was held at the Auckland University of Technology (AUT), Auckland, New Zealand, on November 24–25, 2022.

The goal of the conference was to bring together experienced and emerging researchers in image processing, computer vision, pattern recognition, sensors, graphics, and other related areas, and provide them with a forum to present and discuss their latest research. The conference was endorsed by IAPR and the proceedings will be published by Springer.

We had an international programme committee of 79 academics including a small group of industry experts. We received 79 paper submissions, which is very similar to IVCNZ 2021. Out of those, 14 were accepted as long oral presentations, 23 as short oral presentations and 42 were rejected, resulting in an acceptance rate of 18% for long presentations and 47% overall. About 65% of the accepted papers came from overseas, 35% from New Zealand, and 5% were mixed International/New Zealand. Many of the overseas participants came from India and Australia, but we had accepted papers from all continents (Antarctica excluded).

Because of the long border closure in New Zealand, the conference was planned as an online conference for international participants, while enabling a small gathering of local participants from New Zealand at Auckland University of Technology. This allowed us to set a shorter scheduling between paper review and conference. The effects of the ongoing pandemic could still be felt. However, the use of digital tools and backup videos allowed all participants to present their research. Many participants, both online and on-site, expressed their desire to meet in person after a long period of attending online conferences, only. About 40% of the participants registered for on-site participation. The on-site participants were dedicated, enthusiastic and clearly enjoying meeting face-to-face.

The conference was run as a single track, structured into four keynote speeches, six sessions of long oral presentations and five sessions of short oral presentations. The sessions were scheduled by the local timezone of the presenters. The sessions were chaired by Richard Green (University of Canterbury), Steven Mills (University of Otago), Lee Streeter (University of Waikato), David Wilson (Auckland University of Technology) and the general co-chairs. On the first day, we also held the Annual General Meeting

of the New Zealand Robotics, Automation and Sensing research group. The keynote speeches were:

• Mengjie Zhang (Victoria University of Wellington): Evolutionary Machine Learning: Research, Applications and Challenges

• Mohan Kankanhalli (National University of Singapore): Combining Deep Networks and Logic for Computer Vision

• Nikola K. Kasabov (Auckland University of Technology): Why Use Brain-Inspired (Neuromorphic) Computation for Computer Vision?

- Dacheng Tao (The University of Sydney): More Is Different: ViTAE elevates the art of computer vision

Deep learning was the predominant topic of the conference. Many of the proposed methods were related to convolutional neural networks, generative adversarial networks, vision transformers, U-Nets or YOLO. The keynote speeches integrated evolutionary machine learning and logic in the deep learning framework. The majority of papers was aimed at detection and classification problems. Many of the classes to be recognised addressed the primary industries and medical applications. Other clusters of papers aimed at explainable artificial intelligence, inspection and quality assessment tasks, object tracking, as well as rendering and graphics. Special interest topics were imaging sensors, segmentation, visual odometry, and image reconstruction. A number of papers proposed new data sets. Often, the experimental methodology was not only focussed on winning standard benchmarks, but also on supporting the results by activation heatmaps, ablation studies and case examples.

The best paper award was given to Altaf, Islam, Janjua and Akhtar for their study on the "Pre-text Representation Transfer for Deep Learning with Limited & Imbalanced Data: Application to CT-based COVID-19 Detection".

The next IVCNZ will be held at Massey University, Palmerston North, New Zealand, in 2023.

IVCNZ 2022 Conference Dinner

This bulletin board contains items of interest to the IAPR Community

Pattern Recognition Letters
https://www.journals.elsevier.com/pattern-recognition-letters

Upcoming Special Issue

Advances in Disinformation Detection and Media Forensics (VSI:A2DMF)

Guest Editors: Irene Amerini (MGE), amerini@diag.uniroma1.it, Sapienza University of Rome, Italy; Victor Sanchez, V.F.Sanchez-Silva@warwick.ac.uk, University of Warwick, UK; Luca Maiano, maiano@diag.uniroma1.it, Sapienza University of Rome, Italy

Submission period: June 1 - June 20 2022

More information at: *https://www.sciencedirect.com/journal/pattern-recognition-letters/about/call-for-papers#advances-in-disinformation-detection-and-media-forensics-a2dmf*

Call for Special Issues

We invite researchers in Pattern Recognition and related fields to submit proposals for new Special Issues. Special Issues are a unique occasion to collect high-quality papers that pertain to topics not strictly related to the journal, and therefore to expand the scientific offer for our readers.

For further information, please contact the EiC for Special Issues
Prof. Maria De Marsico (*demarsico@di.uniroma1.it*)

International Computer Vision Summer School:
From Perception to Action

Sicily, Italy,
09-15 July 2023

Web:
iplab.dmi.unict.it/icvss

Email:
icvss@dmi.unict.it

Facebook:
https://www.facebook.com/groups/540991352579753/

APPLICATION DEADLINE:
31 March 2023
https://iplab.dmi.unict.it/icvss2023/Application

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Meeting and Education Planner

The IAPR web site has the most up-to-date information on IAPR events. Click here.
NOTE: Highlighting indicates that the paper submission deadline is still open.
+ Plus sign denotes pending application for IAPR endorsement/sponsorship +   * Asterisks denote non-IAPR events *

All dates indicated below are as of the time of publication. Conference dates and venues may change due to COVID-19 concerns. Some may be held online. Please check the conference websites for the most up-to-date information.

		Meeting	Report on previous edition	Venue
2023	FEB	**ICPRAM 2023**: 12th International Conference on Pattern Recognition Applications and Methods	ICPRAM 2022	Portugal
		VISAPP 2023: 12th Intl Conference on vision Theory and Applications	VISAPP 2022	Portugal
	APR	**IWBF 2023**: 11th IAPR/IEEE International Workshop on Biometrics and Forensics	IWBF 2020	Spain
	JUN	**MCPR 2023**: 15th Mexican Conference on Pattern Recognition	MCPR 2022	México
		IbPRIA 2023: 11th Iberian Conference on Pattern Recognition and Image Analysis	IbPRIA 2022	Spain
	JUL	**DeLTA 2023**: 4th International Conference on Deep Learning Theory and Applications	DeLTA 2020	Italy
		ICPRS 2023: 13th International Conference on Pattern Recognition Systems	ICPRS 2022	Ecuador
	AUG	**ICDAR 2023**: 17th International Conference on Document Analysis and Recognition	ICDAR 2021	USA
	SEP	**GbR 2023**: 13th IAPR TC15 International Workshop on Graph-based Representations in Pattern Recognition	GbR 2019	Italy
	NOV	**ACPR 2023**: 7th Asian Conference on Pattern Recognition	ACPR 2021	Japan
		CIARP 2023: 26th Iberoamerican Congress on Pattern Recognition	CIARP Porto	Portugal
2024	DEC	**ICPR 2024**: 27th International Conference on Pattern Recognition	ICPR 2022	India

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Ideas for features you'd like to see in the IAPR Newsletter?
Send your comments to: Heydi Méndez Vázquez, EiC, *hmendez@cenatav.co.cu*