


IAPR
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Newsletter

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From the Editor's Desk: Industry or academia?

by Arjan Kuijper

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<http://www.gris.tu-darmstadt.de/~akuijper/>

For most PhD students, somewhere in the dark recesses of their minds lurks the question, "Will I stay in academia or move to industry?" When I have asked people this question—either after their Bachelor's/Master's, or after completing their PhD—they mostly don't know. While industry seemed to have a bad name, many of them still identified it as the best option. "The chances of staying in academia are very small, so I guess I'll move to industry," was something I often heard. Some were quite honest and told me that with a title (PhD, or Dr.), the opportunities to get a good salary in industry were simply higher. Others were clear in evaluating their chances: "I'm not good enough to become a full professor, so I'd have to move to industry anyway". And so, in my sampling, industry has been synonymous with "everything but academia". As if the latter were the highest goal and industry was Plan B that would always work out "in case of".

Interestingly, I had an opposite experience. When I applied for a research position in industry after

three years of postdoc experience, the recruiter asked me the confrontational question: "So you spent seven years in academia: four years as PhD student and three years as postdoc. What exceptional knowledge and skills do you bring with you that exceed those of someone who has worked here for these seven years already?" So Plan B wasn't that easy for me (and I had to stick to Plan A and stay in academia....). As far as I can recall, the general feeling for some years was that research/science/theory was done in academia and development/practice was done in industry. With only some very few exceptions.

Nowadays, it isn't that simple anymore. It may even be the opposite in some research areas. When you look at the affiliation of authors at big, major, and influential conferences, you'll see that many authors work in industry. For instance, the driving power in (deep) learning methods (guess that's not hype anymore but merely an essential part of our curriculum!) comes from these

CALLS for PAPERS

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/

[DAS 2018](#)

13th IAPR International Workshop on
Document Analysis Systems
Vienna, Austria
Deadline: Nov. 20, 2017
Dates: Apr. 24-27, 2018

[ASAR 2018](#)

2nd IEEE International Workshop on
Arabic and derived Script Analysis and Recognition
London, UK
Deadline: Dec. 1, 2018
Dates: Mar. 12-14, 2018

[ICPR 2018](#)

The 24th International Conference on Pattern Recognition
Beijing, China
Deadline for Proposals for Contests: Dec. 1, 2017
Deadline for Proposals for Workshops and Tutorials: Dec. 15, 2017
Deadline for Paper Submission: Jan. 5, 2018
Dates: Aug. 20-23, 2018

[IWBF 2018](#)

6th IAPR/IEEE International Workshop on
Biometrics and Forensics
London, UK
Deadline: Jan. 5, 2018
Dates: Jun. 6-7, 2018

[ICFHR 2018](#)

16th International Conference on
Frontiers in Handwriting Recognition
Niagara Falls, New York, USA
Deadline: Mar. 2, 2018
Dates: Aug. 5-8, 2018

huge companies—I won't mention names, you'll probably know them better than I do. I'm just wondering how it will look like at ICPR2018 (Calls for Papers and Workshops in this issue!).

This change offers many advantages. Collaboration is the key word. Universities can have a huge playground to test ideas; companies can obtain more intellectual expertise at state-of-the-art. For the IAPR this is also challenging. Traditionally, IAPR members were affiliated at universities. That continues to change.

My closing message is for IAPR members in industry and for students. The IAPR's Industrial Liaison Committee is working on improving the connections between the academic and industrial groups within the IAPR (see Call for Internship Listings

for the IAPR Internship Brokerage Page in this issue).

If you are a researcher at a company with internship opportunities, please post them.

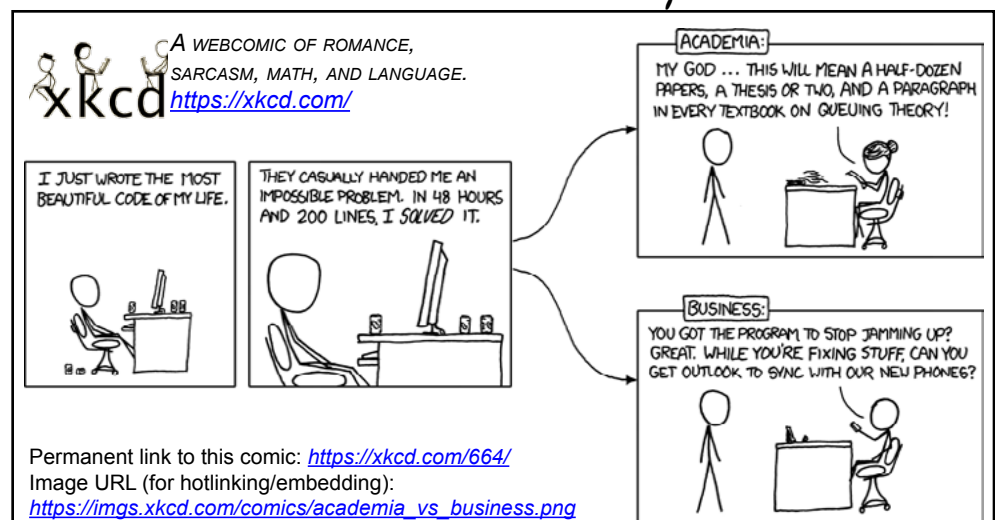
Many of you reading this column are students, and many of you will end up in industry. My hope is, that you will continue to be members of the IAPR, enhancing the IAPR's

“industrial view”.

The IAPR continues to grow and, in addition to its pre-doctoral members, needs the support of its members in academia and industry to foster mutual interests and educate the next generation. Are you in?

Happy reading!

Arjan



Calls from IAPR Committees

From the IAPR Education Committee:

Call for Applications for IAPR Research Scholarships

<http://www.iapr.org/docs/IAPR-EC-RS-Call-2016.pdf>

Description: IAPR Research Scholarships, awarded by the IAPR through its Education Committee (IAPR-EC), 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. Through this program, the IAPR sees an opportunity to make a significant contribution to the development of Early Career Researchers as well as the wider Pattern Recognition community.

Covered expenses and duration: 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. See [Call for Applications](#) for a full list of requirements.

Contact information:

IAPR-EC Chair
c/o Josep Lladós
josep.llados@cvc.uab.es

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
for Students seeking internship opportunities
<http://homepages.inf.ed.ac.uk/rbf/IAPR/INDUSTRIAL/>

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)

For students:

If you are a student, please visit the web site given above.

Please email your listings as follows:

To: Bob Fisher - rbf@inf.ed.ac.uk

Subject: IAPR internship listing

Details:

- Host:
- Location:
- Post Type:
- Speciality:
- Funded:
- Length:
- Degree Requirements:
- Internship start date:
- Application closing date:
- Details:
- Contact:

NOTE: This new service is just starting, so it will take some time for the web page to be well populated.

Contact Information:

Bob Fisher, rbf@inf.ed.ac.uk
Chair, IAPR-ILC

From the IAPR Executive Committee (ExCo):

Call for Proposals for "Summer" Schools

Deadline: February 1, 2018
(for schools planned for
April 2018 - July 2018)

"Summer" schools are training activities that expose participants to the latest trends and techniques in the particular pattern recognition field. ("Summer" is used generically; the school can take place in any season.)

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 schools should be submitted to IAPR Treasurer Apostolos Antonacopoulos by email (a.antonacopoulos@primaresearch.org). A PDF attachment containing all the required information is appreciated.

For detailed guidelines on the proposal, see the **ExCo Initiative on Summer Schools**, <http://www.iapr.org/committees/SummerSchool-2016.pdf>

CALLS FOR NOMINATIONS

FOR AWARDS TO BE PRESENTED @ ICPR 2018

In the coming months, an official Call for Nominations for the prestigious King-Sun Fu Prize, the highest honor given by the IAPR, will be posted at the IAPR web site

http://www.iapr.org/fellowsandawards/awards_kingsunfu.php.

The IAPR established this prize in honor of the memory of Professor King-Sun Fu, who was instrumental in the founding of the IAPR, served as its first President, and is widely recognized for his extensive contributions to the field of pattern recognition.

This biennial prize is given to a living person in recognition of an outstanding technical contribution to the field of pattern recognition.

The nomination must be made by a member of a national member society of IAPR and by endorsement of at least five members, representing at least two member societies different from that of the nominator. The prize recipient shall be selected by the Prize Committee, subject to approval by the IAPR Governing Board.

Members of the IAPR Executive Committee, as well as of the Prize Committee, shall be ineligible for the prize and may not serve as nominators or endorsers.

J.K. Aggarwal Prize

A Call for Nominations will soon be posted at the IAPR web site:
http://www.iapr.org/fellowsandawards/awards_aggarwal.php

Professor Aggarwal is widely recognized for his extensive contributions to the field of pattern recognition and for his participation in the IAPR's activities.

The recipient is a young scientist, under the age of 40 at the date of the 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 prize recipient shall be selected by the J. K. Aggarwal Prize Committee, subject to approval by the IAPR Governing Board, upon nomination by a member of a national member society of IAPR and by endorsement of four members, representing at least two member societies different from that of the nominators and nominee.

Members of the IAPR Executive Committee, as well as of the J.K. Aggarwal Prize Committee, shall be ineligible for the prize and may not serve as nominators or endorsers.

Maria Petrou Prize

A Call for Nominations will soon be posted at the IAPR web site:
http://www.iapr.org/fellowsandawards/awards_petrou.php

The Maria Petrou Prize is awarded biennially at ICPRs to a living female scientist/engineer who has made substantial contributions to the field of Pattern Recognition, and whose past contributions, current research activity and future potential may be regarded as a model to both aspiring and established researchers. This 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 for women researchers and highly successful role model. She is widely recognized for her extensive contributions to the field of image processing and pattern recognition. She also made significant contributions to the growth of IAPR, covering significant leadership roles.

The Prize consists of a suitably inscribed plaque and a cash amount partially covering a visiting period of the winner at some research institution or university.

IAPR Fellow Award

Deadline for Submission of Nomination/Endorsement Forms
December 1, 2017
Click on "Call for Nominations"
<http://www.iapr.org/fellowsandawards/index.php>

We welcome nominations for the award of Fellow of the IAPR. Anyone is eligible to be nominated, except for current members of the Executive Committee and of the Fellow Committee.

Guidelines for IAPR Fellowship Nomination:
<http://www.iapr.org/fellowsandawards/IAPRInstructions-2018.pdf>

Please address any questions to the Chair of the Fellow Committee, Gunilla Borgefors,

To: gunilla@cb.uu.se
Subject: IAPR Fellowship 2018
cc: webmaster@iapr.org

The IAPR appreciates your efforts to support the Fellowship program!

Getting to know...Massimo Tistarelli, IAPR Fellow



*Massimo Tistarelli, IAPR Fellow
ICPR 2004, Tampa*

*For contributions to computer vision, and
biometrics research and education*

Massimo Tistarelli received his PhD in Computer Science and Robotics from the University of Genoa, Italy, in 1991. Since 1986, he has been involved as project coordinator and task manager in several projects on computer vision and image analysis funded by the European Community.

Since 1994, he has been the director of the Computer Vision Laboratory at the Department of Communication, Computer and Systems Science of the University of Genoa, and now at the University of Sassari. He is a founding member of the Biosecure Foundation, which includes all major European research centers working in biometrics. He is the Chair of the Management Committee of the European Union COST Action IC1106 "Integrating Biometrics and Forensics for the Digital Age".

His main research interests cover biological and artificial vision (particularly in the area of recognition, three-dimensional reconstruction and dynamic scene analysis), pattern recognition, biometrics, visual sensors, robotic navigation and visuo-motor coordination. He is co-author of more than 200 peer-reviewed scientific papers and the principal editor for the Springer book "Handbook of Remote Biometrics", published in 2009.

Prof. Tistarelli is associate editor for the journals IEEE Transactions on Pattern Analysis and Machine Intelligence, Image and Vision Computing, Pattern Recognition Letters and IET Biometrics. continued on next page...

Editor's note:

Massimo Tistarelli is First Vice-President of the IAPR and a leading researcher in Biometrics.

In this Feature Article, the IAPR Newsletter asked Prof. Tistarelli to respond to some specific questions about his activities in the Biometrics Community and his thoughts on some topics in the field.

~ Arjan Kuijper, Editor-in-Chief

by [Massimo Tistarelli](#), Computer Vision Laboratory, University of Sassari, Italy

1) You have been the Director of the "International Summer School on Biometrics" since 2003. Can you tell us something about it? What is the purpose, and, looking back, does it have impact on researchers and society?

The International Summer School on Biometrics (see report on [Biometrics 2017](#), this year's edition, in this issue) was started to fill a gap in higher education in the field of Biometrics, but also to provide an up-to-date reference for post-docs, researchers and professionals in the field. The school was started with a few basic principle in mind, which proved, over time, to be successful:

- **Residential.** In order to maximize the interaction among the students and the lecturers, all participants stay in the same residence where the lecture rooms are located. All meals are taken together.
- **Wide teaching staff.** Since the first edition, the school has been characterized by a large number of lecturers, who are all experts in their respective fields. At present, the teaching staff is composed of 18 scientists.
- **Multidisciplinary.** Even being a school on biometrics, the curriculum covers a wide range of different disciplines, all concurring to better understand how biometric data can be captured,

processed and deployed in different application domains. The subjects taught are not limited to single biometric modalities, rather they also include machine learning, neuroscience, forensic science, bioethics and other advanced topics.

- *Updated to the state of the art.* Each year the course curriculum is updated according to the most advanced research topics and the current state of the art. For this reason, each year the school is focused around an emerging and challenging topic.

Over the last 15 years, the school has trained about 600 participants. Most of them were Phd students who greatly benefitted from the course and are now employed in a biometric-related company or a government agency, or they are pursuing a research career in an academic institution. We could relate many success stories.

2) One can "steal" fingerprints by taking high-res images. How safe is biometrics? Can people steal my identity by also taking pictures with enough iris information?

Many people are convinced that biometric data is private, but it is not. For sure, most biometric traits, including fingerprints and iris, can be captured by either lifting a trace or capturing an image even from a distance. However, the biometric data alone is rarely useful, unless I have access to some really private information, such as the bank account number, a personal device, a credit card, and so on. Even in this case, in order to break a private vault one needs to forge a synthetic version of the true biological body segment, either a finger, face, iris, etc. But, most biometric recognition systems

now encompass a module to detect attempts to present fake biometric samples. Several past and present research projects have successfully addressed the "privacy protection" issue over all levels of attacks, including presentation attacks at the sensor level. The algorithmic solutions devised are now incorporated in many industrial products.

3) One of your recent papers (already often cited!) is called "on soft biometrics". What is it about?

This paper explores several issues related to the capture and classification of so called "soft-biometric" traits. Conventional biometric technologies and related traits, such as face, fingerprint, iris and speech, are often dubbed as "hard" because they are aimed at providing a hard or strong decision to distinguish a true user from an impostor. On the contrary, soft-biometric technologies are based on the characterization of persons on the basis of more "loose" features, such as the age, gender, hair color, facial hair, clothing, gestures etc. All these features do not possess the same permanence, or invariance over time, as the conventional, or "hard", biometric traits. For this reason, they are not well suited to recognize an individual over a large population or a long time span. However, soft-biometric traits proved to be fairly robust to recognize people over a small to medium population or for re-identification purposes, i.e. to track people within a limited area and a short time. In general, soft-biometric traits are easier to collect and process, and the correct recognition rates, when combining several "soft" characteristics, can be quite high.

It is worth noting that for many years forensic experts and police

officers have relied on soft-biometric descriptions of suspects to perform criminal investigations and they have proved to be successful many times.



On soft biometrics

<https://dl.acm.org/citation.cfm?id=2853016>

Authors:

Mark S. Nixon (University of Southampton, UK); Paulo L Correia (Instituto de Telecomunicações, Instituto Superior Técnico, Lisboa, Portugal); Kamal Nasrollahi (Aalborg University, Denmark); Thomas B. Moeslund (Aalborg University, Denmark); Abdenour Hadid (University of Oulu, Finland); Massimo Tistarelli (University of Sassari, Italy)

Published in :

Journal Pattern Recognition Letters
Volume 68 Issue P2, December 2015,
Pages 218-230, Elsevier Science Inc. New York, NY, USA

...continued from previous page

Since 2003 he is the director for the International Summer School for Advanced Studies in Biometrics yearly held in Alghero, Italy.

In 2000 he was the General Chair for the International workshop on "Advances in Facial Image Analysis and Recognition Technology," in 2002 for the International workshop on "Biometric Authentication"; in 2007 for the fifth Int.l Workshop on Automatic Identification Advanced Technologies, in 2009 and 2015 for the 3rd Int.l Conference on Biometrics.

He is the Scientific Director of the Italian Platform for Biometric Technologies (established from the Italian Ministry of the University and Scientific Research), First Vice-President of the International Association for Pattern Recognition (IAPR), President of the Italian Chapter of the IEEE Biometrics Council, Member of the IEEE Biometrics Professional Certification Committee, Fellow member of IAPR, and Senior member of IEEE.

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)?
- **And lastly:** How can the IAPR help young researchers?

~Arjan Kuijper, Editor -in-Chief

Silvia Cascianelli



Silvia Cascianelli received the B.Sc. degree in Electronic and Information Engineering in 2013, from University of Perugia, with a thesis on System Fault Detection and Accomodation for UAV's anemometers. Since then she has collaborated with the [Intelligent Systems, Automation and Robotics Laboratory \(ISARLab\)](#). In 2015, she received the M.Sc. magna cum laude degree in Information and Automation Engineering with a thesis on Nuclear Image based Computer Aided Diagnosis systems for Alzheimer's Disease from the University of Perugia. She then joined the ISARLab in 2015 as a Ph.D. student. Her research interests are mainly Machine Learning and Computer Vision for Autonomous Robotics applications.

by [Silvia Cascianelli](#), University of Perugia, Italy

How did you get involved in pattern recognition?

It happened in a way that is a fact of life for me: I made good use of my own and others' experiences. As a first year MSc student, I was having a study break with my classmates and friends. One of them told us that he had heard about the Coursera initiative and, in particular, the Machine Learning class given by Andrew Ng.

We were all fascinated, and a few of us took the class. Note that at that time there were no Machine Learning classes in my University and few of them in Italy. An additional motivation to take the class was a seminar that my Automatic Control Theory Professor had organized some months earlier. A young, and I may say passionate, Pattern Recognition researcher gave a talk. She told us the general idea behind Machine Learning and, as usually happens at the first contact with this topic, we all felt like she was talking about Sci-Fi. It sounded so powerful and easy, and I was so young, that at that time I only saw the fancy façade of

Editor's note:

Silvia Cascianelli won the [Essay Competition](#) at the [2017 International Computer Vision Summer School \(ICVSS 2017\)](#). The topic was "The Social Impact of Computer Vision".

~ Arjan Kuijper, IAPR Newsletter EiC

Machine Learning. Let me say, that was like a crush.

While I was completing the Coursera class, my university started a Machine Learning class, which I then attended. I also continued studying on my own. I was lucky to work as a MSc student in the ISARLab (Intelligent Systems, Automation and Robotics Laboratory) research group. The group collaborates with the Nuclear Medicine Department, and I took part of some projects and tried what I was learning on real datasets. Thus, I faced some very practical problems with real data and applied very simple but effective solutions for the projects we were involved in. Machine Learning turned from “so powerful and easy” to “still powerful but not that easy”.

Then I became a PhD Student in the ISARLab that primarily works in Artificial Intelligence for Robotics. I still see that Machine Learning is powerful, and now I have also figured out it has its limits, and it is not easy at all. However, as it “became” harder, I became hopelessly devoted to it.

What technical work have you done, and what is/are your current research interest(s)?

I started quite early getting involved, even if marginally, in research projects. At the beginning I worked in Automatic Control. While I was a MSc student, I was able to publish my BSc Thesis, as part of a larger study on Fault Detection and Accommodation for aircraft's speed sensors. My part was actually nothing special, just an Extended Kalman Filter (well, for BSc students like me at that time it was not banal.) However, for the first time I was spending most of my time studying a problem deeply and trying to find a theoretically sound solution. Then I was involved in works on

Computer Aided Diagnosis based on clinical data and Medical Imaging data, as a collaboration between my Department and the Nuclear Medicine Department. I still work with them sometimes. To summarize, in my “research infancy” I got an intuition of what I like in research: theoretical challenges and practical outcomes and social impact. The research group I joined as a PhD student, the ISARLab, mainly works on Artificial Intelligence for Robotics applications as I said, thus I found these features there.

As a PhD student, I think that I'm now in my “research adolescence”, and that I'm supposed to try to find the topic I would like to spend all my energy on. To me, this is a quite long process and it is not straightforward. The first topic I approached as a PhD student was Visual Place Recognition. To be honest, I was more oriented to Knowledge Representation and Scene Understanding rather than to Localization. Indeed, after a while I realized that was not my topic, but what was?

At some point, I read this Alan Turing's quote: “We may hope that machines will eventually compete with men in all purely intellectual fields. But which are the best ones to start with? [...] It can [also] be maintained that it is best to provide the machine with the best sense organs that money can buy, and then teach it to understand and speak English.” This was game-changer to me. I wanted to explore this conjecture of machines understanding and speaking.

I started working on algorithms able to produce natural language description of generic visual sequences (which is usually referred to as Natural Language Video Description - NLVD). The description can be seen as a manifestation of what the robot

learned from both visual and textual data and what it learned as being important to describe. In addition, NLVD is a good basis for natural language question answering. Hence, this offers a friendly interface also for non-expert people who would then be able to effectively interact with their home robot in the near future.

In recent years, many researchers from the Computer Vision and Natural Language Processing (NLP) communities have studied the problem of describing generic videos using natural language phrases. Among the proposed strategies, harnessing Deep RNNs has gained popularity, in particular when combined with state-of-the-art CNNs. Despite of the success of recent state-of-the-art approaches, NLVD is a particularly challenging problem, firstly due to the “object” of the description itself, i.e., the video sequence, that is typically open-domain and complex in real scenarios. Some architectures exist that produce very good descriptions of videos, but in general these are either very short, very specific, or both, i.e., they depict simple activities of a particular domain with few “actors” in the scene. Those kinds of video sequences are far simpler than the typical complexity of real application contexts. Indeed, considering visual sequences collected in these scenarios, questions arise e.g., about how to group the frames depicting actions from different actors; how to figure out when an action begins and when it ends; how to keep track of the temporal development of the events in long sequences; how to properly manage the presence of many actors in the scene. To me, the ability to deal with such a complex input is crucial for real-world applications and the challenges this poses are very stimulating.

Although the research is very active, there is still much work to be done, from the enlargement of the existing datasets to the development of specific algorithms and even the design of evaluation metrics specific for this task, which involves both vision and language. I find this research problem extremely fascinating, because it has technical and theoretical challenges and I really think it is relevant for its possible practical outcome.

How can the IAPR help young researchers?

As I mentioned before, I got involved in Pattern Recognition as the result of a typical process in my academic life: I benefited from the experience of older researchers, and I was influenced by the enthusiasm of my peers. I think that, on a larger scale, this is what happens to young researchers also

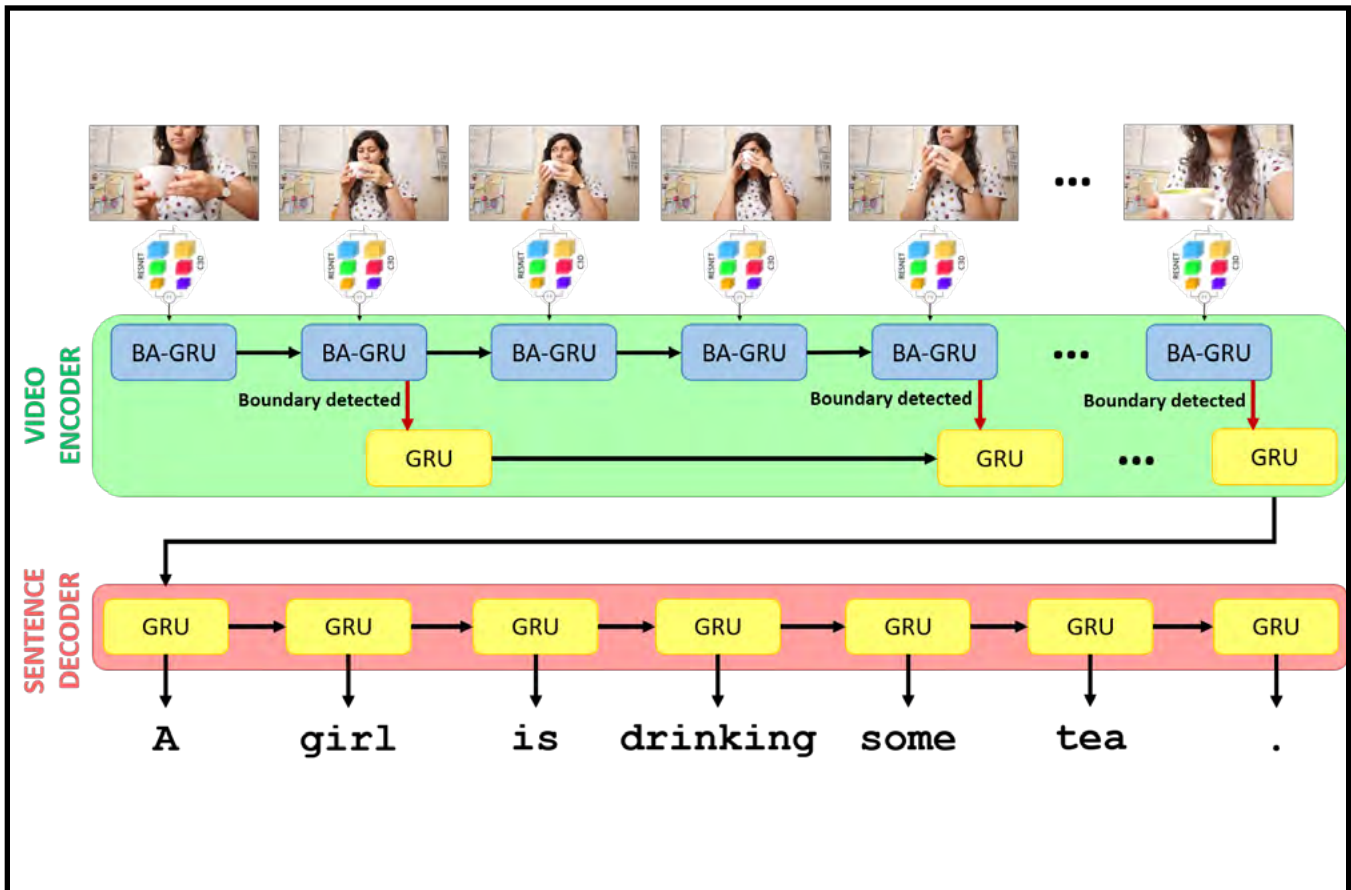
thanks to the IAPR. Members of the IAPR, organize conferences, workshops, seminars, and schools with generosity and effort. Those events are basically occasions to share ideas, stem collaborations, and keep being motivated.

As an example from my although short experience, I would like to mention the International Computer Vision Summer School, which incorporates many of the features of the IAPR initiatives for young researchers. In the most incredible week I spent during my PhD, I heard the story of a young Professor from a small Italian university striving to fund one of the most important Summer Schools in the PR community. I had advice from top researchers on how to be a good researcher. I met other students, who are facing the same issues that I am (scientific, academic, economic,

personal) and lecturers who had faced the same issues during their times as PhD students.

This gave me (and not only me) both scientific and personal inspiration. I also learned “research humility”, the importance of striving to gain insights on a problem. I learned not to believe the hype, especially the PR hype, but to be critical and picky and ask questions instead. After asking, as an “aspiring researcher”, I feel the need to try to answer some of them as well.

Luckily, there is an entire community that is doing the same while also being attentive in supporting young researchers. That support entails organizing events, giving grants and, more important to me, giving inspiring examples.



This image above is from a video at the ISARlab website. Click on the image above or the link below to see the video: http://isar.unipg.it/index.php?option=com_content&view=article&id=46:vision-and-language-for-service-robotics&catid=2&Itemid=188

BENCHMARK DATASETS

Editor's note:

For the "Benchmarking Datasets" feature in this issue, the IAPR Newsletter spotlights two datasets from the University of Zurich, the "Zurich Urban Micro Aerial Vehicle Dataset" and the "Event-Camera Dataset and Simulator".

Do you have benchmarking news to share?

Send the link.

Describe the contents.

Include a contact person.

We'll feature your dataset in this series.

~ Arjan Kuijper, IAPR Newsletter EiC
arjan.kuijper@igd.fraunhofer.de

ZURICH URBAN MICRO AERIAL VEHICLE DATASET FOR APPEARANCE-BASED LOCALIZATION, VISUAL ODOMETRY, AND SLAM

Dear colleagues:

We are releasing the "[Zurich Urban Micro Aerial Vehicle Dataset](http://rpg.ifi.uzh.ch/zurichmavdataset.html)".

It was recorded with an camera-equipped

quadrotor (a tethered Fotokite drone) within the urban streets of Zurich at low altitudes (i.e., 5-15 meters above the ground).

The 2 km dataset consists of time synchronized aerial high-resolution images, GPS, IMU, ground-level Google Street View images, and centimeter-accurate ground truth, for a total of 28GB of data.

The dataset is ideal to evaluate and benchmark appearance-based topological localization, monocular visual odometry, simultaneous localization and mapping (SLAM), and online 3D reconstruction algorithms for micro aerial vehicles in urban environments.

Dataset, reference paper (IJRR'17), and illustrative video: <http://rpg.ifi.uzh.ch/zurichmavdataset.html>

Best regards, [Davide Scaramuzza](http://www.ifi.uzh.ch/people/scaramuzza)

Reprinted with permission from an ImageWorld announcement.

THE EVENT-CAMERA DATASET AND SIMULATOR EVENT-BASED DATA FOR POSE ESTIMATION, VISUAL ODOMETRY, AND SLAM

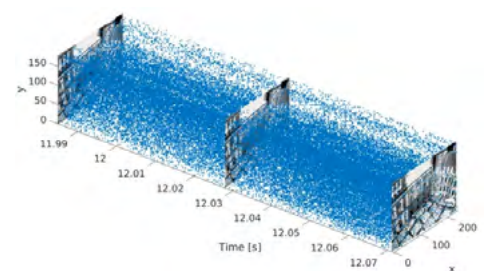
This presents the world's first collection of datasets with an event-based camera for high-speed robotics.

The data also include intensity images, inertial measurements, and ground truth from a motion-capture system.

An event-based camera is a revolutionary vision sensor with three key advantages: a measurement rate that is almost 1 million times faster than standard cameras, a latency of 1 microsecond, and a high dynamic range of 130 decibels (standard cameras only have 60 dB). These properties enable the design of a new class of algorithms for high-speed robotics, where standard cameras suffer from motion blur and high latency.

All the data are released both as text files and binary (i.e., rosbag) files.

http://rpg.ifi.uzh.ch/davis_data.html



Editor's note:

Davide Scaramuzza is Head of the Robotics and Perception Group http://rpg.ifi.uzh.ch/people_scaramuzza.html at the University of Zurich. The IAPR Newsletter appreciates his suggestions for the Benchmark Dataset series.

~ Arjan Kuijper, IAPR Newsletter EiC

From the

News from the Executive Committee of the IAPR



by [Alexandra Branzan-Albu](#) (Canada)
IAPR Secretary



Victoria, October 10, 2017



The Fall Term is in full swing at our university. I mostly cross paths with students rushing to their classes, deeply preoccupied about their midterms or worrying about how to juggle multiple deadlines for assignments.

There are lots of deadlines coming up for our IAPR Community as well, mostly concerning our flagship conference, ICPR 2018, which will be held in August in Beijing. See the [Call for Papers and Workshop, Tutorial, and Contest Proposals](#) in this issue of the Newsletter, and check the ICPR 2018 website <http://www.icpr2018.org> frequently for updates.



Fellows

A number of very special awards are given at ICPR, and their respective committees are reaching out to the IAPR Community for nominations (see Call for Nominations for Awards to be Given at ICPR2018 in this issue).

In particular, I would like to draw attention to the deadline for submitting **Nominations and Endorsement Forms for IAPR Fellows**, which is **December 1, 2017**. The Fellow Committee, led by Prof. Gunilla Borgefors, has worked diligently during this summer on a number of timely updates to these forms. The call for nominations is available on our web site at <http://www.iapr.org/fellowsandawards/index.php?ar=3>.



Awards

In the coming weeks, additional Calls for Nominations for the King-Sun Fu Prize, the J. K. Aggarwal Prize, and the Maria Petrou Prize will be posted at the IAPR website.

In 2018, we will celebrate 40 years since the IAPR was formed. A celebratory event will be held during ICPR 2018. We would welcome any contributions and suggestions from the IAPR community at large regarding on how to best celebrate this important milestone.

I wish you a happy reading of the Fall issue of our newsletter!

IAPR Then and Now...39 Years Ago Fourth International Joint Conference on Pattern Recognition November 7-10, 1978, Kyoto, Japan

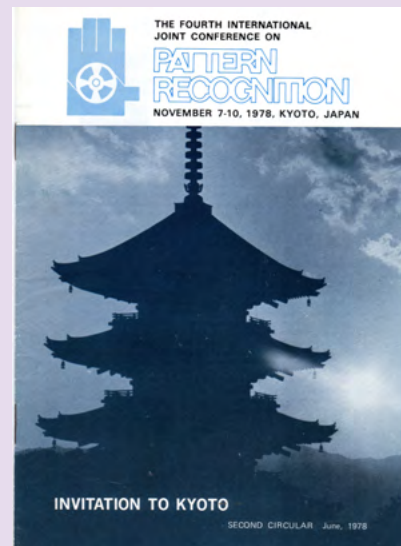
NOTE: This was the first conference after the incorporation of the IAPR. This conference series, now named the International Conference on Pattern Recognition (ICPR, was and still is the flagship conference of the IAPR.

"The Fourth Conference was held in Kyoto, Japan, during 7-10 November 1978. There were mostly 5 parallel sessions with 207 scheduled papers. According to the final program, 24% of the papers were from the U.S.A., 37% from Japan, 28% from Western Europe and 11% from other parts of the world.

There were 16 invited survey papers, 4 panels, an opening session with an invited speaker, a luncheon with a speaker, a banquet, a technical tour to laboratories in Kyoto and two tours in Tokyo. A ladies' program was also organized.

According to the attendance list, the attendance was 543 from 23 countries; 10.5% from the U.S.A., 68.5% from Japan, 15% from Western Europe and 6% from other parts of the world."

~ Excerpt from [History of the International Association for Pattern Recognition](#).



IAPR Technical Committee News

IN THIS ISSUE:

[TC3 Neural Networks & Computational Intelligence](#)

[TC4 Biometrics](#)

[TC7 Remote Sensing and Mapping](#)

[TC9 PR in Human-Machine Interaction](#)

[TC12 Multimedia and Visual Information Systems](#)

This section the IAPR Newsletter publishes short, timely items by and about the IAPR's Technical Committees.

There are three main aims:

- 1. to give the IAPR's TCs regular access to the broader IAPR community*
- 2. to introduce the various TCs to those who are new to the IAPR and*
- 3. to keep the rest of the IAPR community interested and informed about TC happenings.*

~Arjan Kuijper, IAPR Newsletter EiC

IAPR TC3 Neural Networks & Computational Intelligence

<http://iapr-tc3.diism.unisi.it/index.html>

[Edmondo Trentin](#), Chair

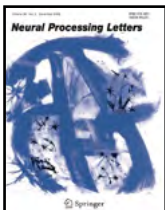
[Markus Hagenbuchner](#), Vice Chair

The scope of [IAPR TC3](#) is to constitute a forum and promote research in the areas of artificial neural networks, computational intelligence, and machine learning techniques for pattern recognition. We invite you to check out our new, constantly-updated website at <http://iapr-tc3.diism.unisi.it/index.htm>, where you can learn more about TC3, access new resources, and possibly join us. At <http://iapr-tc3.diism.unisi.it/Research.html>, in particular, you can find our 2017 manifesto on "off-the-mainstream" research.

We are proud to announce that the 8th edition of our bi-annual Workshop on Artificial Neural Networks in Pattern Recognition (ANNPR 2018) will take place in the picturesque medieval city of Siena (Tuscany, Italy) on September 19-21, 2018. The workshop will be hosted by the Department of Information Engineering and Mathematics at the University of Siena. The ANNPR 2108 website will be online anytime now. Save the date!

Then, we recently granted TC3 endorsement to ICPRAI 2018, that is the International Conference on Pattern Recognition and Artificial Intelligence to be held at Concordia University in Montréal (Canada) in May 2018. Take a look at <http://www.icprai2018.com>.

We are currently in the preliminary stage of discussing the feasibility of a series of open TC3 tele-talks made publicly accessible via streaming over the internet (some degree of interactivity is under consideration, as well), where recognized experts in our field discuss state-of-the-art topics of interest to the IAPR TC3 Community and to our fellow scientists. This would be a free service to the Community, and it would be expected to widen progressively the list of our active members.



Finally, the Special Issue of the journal Neural Processing Letters on "Off the mainstream: advances in neural networks and machine learning for pattern recognition" (<https://groups.google.com/forum/#!category-topic/ml-news/fPPANFZHyt4>) created as a follow-up to the IAPR TC3 ANNPR 2016 is now in the advanced stage of its editorial process. Its publication is scheduled to occur in the early 2018.

ICPRAI 2018 - International Conference on Pattern Recognition and Artificial Intelligence
Celebrating the 30th Anniversary of CENPARMI, Concordia University, Montréal, Canada
May 14-17, 2018



More IAPR Technical Committee News

IAPR TC4 Biometrics

http://iapr.org/docs/ICB-2019-CFB_v5.pdf

Arun Ross, Chair

Zhenan Sun, Vice-Chair

IAPR TC-4 is pleased to invite proposals for hosting the 12th IAPR/IEEE International Conference on Biometrics (ICB 2019). IAPR TC-4 will evaluate all proposals.

ICB was established in 2006 as a biennial conference by merging AVBPA (Audio- and Video-based Person Authentication), ICBA (International Conference on Biometric Authentication) and other biometric workshops, and has established itself as a premier international conference in biometrics. Prior and planned venues for this conference include: ICB 2006: Hong Kong, China; ICB 2007: Seoul, Korea; ICB 2009: Alghero, Italy; IJCB 2011: Washington, DC, USA (in conjunction with BTAS); ICB 2012: New Delhi, India; ICB 2013: Madrid, Spain; IJCB 2014: Clearwater Beach, USA (in conjunction with BTAS); ICB 2015: Phuket, Thailand; ICB 2016: Halmstad, Sweden; IJCB 2017: Denver, Colorado, USA (in conjunction with BTAS); ICB 2018: Gold Coast, Queensland, Australia.

Letters of Intent are due by Nov 1, 2017. The letter of intent should briefly discuss the team (general chairs, program chairs, finance chair), venue, and dates.

Full Proposals are due by Nov 15, 2017. Each proposal should include information on (but not limited to):



- the host organization;
- conference venue and dates (verify possible clashes with other major conferences in closely related fields);
- available accommodation;
- advertisement plan;
- working plan and timetable with critical milestones;
- budget estimates;
- endorsement & financial support.

Further guidelines on IAPR conference organization can be found in

<http://www.iapr.org/conferences/sponsorship.php>

Letters of intent and Full Proposals should be sent via e-mail to:

Dr. Arun Ross, Chair, IAPR TC-4, Email: rossarun@cse.msu.edu,

AND

Dr. Zhenan Sun, Vice-Chair, IAPR TC-4, Email: znsun@nlpr.ia.ac.cn

IAPR TC7 - Remote Sensing and Mapping

<http://www.iapr-tc7.de/>

Eckart Michaelsen, Chair

Jie Shan, Vice Chair

IAPR TC7 is working on the next PRRS: the *10th IAPR Workshop on Pattern Recognition in Remote Sensing PRRS-10-2018*, which will be held August 19-20, 2018, in Beijing, so that participants can attend both **ICPR2018** (see [Calls for Papers and Workshop, Tutorials, and Contests](#) in this issue) and PRRS-10-2018.

IAPR TC7 has found local partners: the workshop will be hosted by the State Key Laboratory of Resources and Environmental Information System, Chinese Academy of Sciences, Beijing. We expect it to be bigger than the past PRRSs. IAPR TC7 will also apply for co-sponsoring of the IAPR, IEEE-GRSS, and ISPRS.

The Call for Papers is under way and will be published via <http://iapr-tc7.de/prrs/PRRS2018.htm> in due time.

IAPR TC9 - Pattern Recognition in Human-Machine Interaction

<https://neuro.informatik.uni-ulm.de/TC9/>[Friedhelm Schwenker](#), Chair[Stefan Scherer](#), Vice Chair

Currently human-machine interaction (HMI) typically takes place on a rather crude explicit question-answer level, whereas human-human interaction is multifaceted, and is consisting of manifold interactive feedback loops between interlocutors, comprising social components (e.g. display rules, social state), moods, feelings, personal goals, nonverbal and paralinguistic conversation channels and even more. In order to close this gap, it is crucial for a machine to perceive and understand the user's current interaction and affective state, as well as it is necessary to register the user's social signals, which are composed of dynamic multimodal behavioral cues. Building intelligent artificial agents or companions capable to interact with humans in the same way humans interact with each other is a major challenge in HMI.

The IAPR Technical Committee mainly focuses on pattern recognition, machine learning and information fusion methods for the perception of the user's affective state, activities and intentions.

Research topics of the new [IAPR TC9](#) include various aspects on pattern recognition and machine learning; in particular research is focused on:

A. Pattern Recognition and Machine Learning Algorithms to recognize emotions, affective states, pain, user activities and intentions

- Learning from unlabeled and partially labeled data
- Learning with noisy labels
- Deep learning architectures
- Learning of time series

B. Algorithms to combine information from multiple modalities such as (Video, Audio, psychophysiological parameters, and neural signals such as EEG or FMRI)

- Information fusion (early, late, intermediate fusion)
- Multi Classifier Systems and Multi View Classifiers
- Temporal information fusion
- Dealing with Uncertainty

C. Applications of HMI

- Systems for Intelligent interaction
- Monitoring and assistive systems in health
- Companion systems

D. Datasets and benchmarks relevant to HMI research

We are planning the organization of the 5th Workshop on Multimodal Pattern Recognition of Social Signals in human computer interaction (MPRSS 2018) to be held at ICPR 2018 (<http://www.icpr2018.org>). Proceedings of the previous edition of MPRSS are available at SpringerLink <https://link.springer.com/book/10.1007/978-3-319-59259-6>.

If you are interested in the activities of TC 9 or if you want to join the TC's mailing list please contact Friedhelm Schwenker friedhelm.schwenker@uni-ulm.de or Stefan Scherer scherer@ict.usc.edu.

IAPR TC12 Multimedia and Visual Information Systems

<http://iapr-tc12.info>

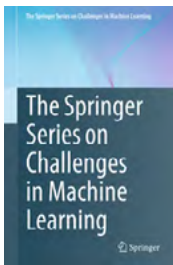
Sergio Escalera, Chair

Henning Müller and Martha Larson, Vice Chairs



IAPR TC12 is supporting a **ChaLearn Looking at People challenge and workshop on gesture and emotion recognition on October 29, 2018, collocated in Venice, Italy, with ICCV 2017.**

Two sub challenges have been run with results to be presented in this event: Large Scale Multimodal RGB-Depth Gesture Recognition and fake-emotion recognition from face video sequences. Looking forward seeing you there! <http://chalearnlap.cvc.uab.es/>

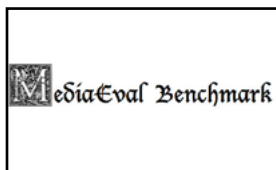


Two members of the IAPR TC-12 are acting as series editors of the new **Springer Series on Challenges in Machine Learning** (<http://www.springer.com/series/15602>), a book series dedicated compiling the outcomes of successful competitions in computer vision and machine learning. The series also includes analyses of the challenges, tutorial material, dataset descriptions, and pointers to data and software. Together with the websites of the competitions, books in this series offer a complete teaching toolkit and a valuable resource for engineers and scientists. The most recent volume has been co-edited by the IAPR TC12 Chair, Sergio Escalera.

The topic of this volume is "Gesture Recognition", being a valuable compilation of the findings derived from several competitions in the so called looking at people field. The series is open to book proposals.



This year IAPR TC12 collaborated in the organization of the **first NIPS edition on "NIPS Competitions"**. 23 competition proposals were received related to data-driven and live competitions on different aspects of NIPS. Five top-scored competitions were accepted to be run and present their results during the NIPS 2017 Competition track day. Details of accepted and currently running competitions can be found at <https://nips.cc/Conferences/2017/Schedule?showEvent=8748>. Organizers and participants in these competitions will be invited to present their work at this workshop, to be held on December 8, 2017, with associated publications to appear in an upcoming Springer Series on Challenges in Machine Learning volume.



The **MediaEval 2017 workshop on Multimedia Evaluation** was supported again this year by IAPR TC12. The workshop took place September 13-15, 2017, at Trinity College, Dublin, Ireland, co-located with CLEF 2017. In 2017, the MediaEval benchmark offered seven multimedia challenges emphasizing the human and social aspects of multimedia. The new tasks this year were particularly diverse and innovative, and we highlight the here. The Multimedia Satellite Task involved linking social images to remotely sensed images. The AcousticBrainz Genre Tasks looked at how to predict genre and sub-genres in light of the different genre taxonomies used by different music websites. The Medico Medical Multimedia Task worked towards supporting medical diagnosticians with real-time video analysis based on limited examples. More information is available at: <http://multimediaeval.org>.

The **ImageCLEF 2017** benchmark that is supported by IAPR TC12 took place in Dublin, Ireland, from September 11-14, 2017, at the CLEF workshop and in close collaboration with the MediaEval benchmark. Four tasks were proposed and results were compared at the workshop, notably on tuberculosis type identification from CT images, prediction of captions from biomedical articles, lifelog retrieval and population estimation from remote sensing. The workshop gave the participants the occasion to discuss results, present overall outcomes, and get ideas for next year. Also the LifeCLEF 2017 workshop was held at the same venue, attracting the multimedia analysis community around tasks for biodiversity monitoring including images, videos and sounds. More information on both workshops can be found at <http://www.imageclef.org/>.



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ICPR 2018

IMPORTANT DATES

Nov. 5, 2017 - Paper submission opens

Dec. 1, 2017 - Contest proposal deadline

Dec. 15, 2017 - Workshop and Tutorial proposal deadline

Jan. 5, 2018 - Paper submission deadline

August 20-24, 2018 - Conference Dates



24th INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION

In Beijing, China — August 20-24, 2018

www.icpr2018.org

ICPR will be an international forum for discussions on recent advances in the fields of Pattern Recognition, Machine Learning, and Computer Vision and on applications of these technologies in various fields.

GENERAL CHAIRS:

Tieniu Tan (China), Josef Kittler (UK), Anil Jain (USA)

PROGRAM CHAIRS:

Cheng-Lin Liu (China), Rama Chellappa (USA), Matti Pietikäinen (Finland)

TRACKS and TRACK CHAIRS:

Track 1: Pattern Recognition and Machine Learning

Dacheng Tao (Univ. of Technology Sydney, Australia)
Daniel Lee (University of Pennsylvania, USA)
Marcello Pelillo (University of Venice, Italy)
Sergios Theodoridis (Univ. of Athens, Greece)

Track 2: Computer Vision

Hongbin Zha (Peking University, China)
Takayuki Okatani (Tohoku University, Japan)
Krystian Mikolajczyk (Imperial College, UK)
Ming-Hsuan Yang (UC Merced, USA)

Track 3: Speech, Image, Video and Multimedia

Changsheng Xu (Inst. of Automation of CAS, China)
Theo Gevers (Univ. of Amsterdam, The Netherlands)
Bhiksha Raj (Carnegie Mellon University, USA)
Yi Yang (University of Technology Sydney, Australia)

Track 4: Biometrics and Human Computer Interaction

Zhenan Sun (Institute of Automation of CAS, China)
Arun Ross (Michigan State University, USA)
Massimo Tistarelli (University of Sassari, Italy)
Brian Lovell (University of Queensland, Australia)

Track 5: Document Analysis and Recognition

Koichi Kise (Osaka Prefecture University, Japan)
Venu Govindaraju (SUNY Buffalo, USA)
Simone Marinai (University of Firenze, Italy)
Apostolos Antonacopoulos (University of Salford, UK)

Track 6: Biomedical Imaging and Bioinformatics

Tianzi Jiang (Institute of Automation of CAS, China)
Dimitris Metaxas (Rutgers University, USA)
Elena Marchiori (Radboud Univ., The Netherlands)
Seong-Whan Lee (Korea University, Korea)

WORKSHOPS, TUTORIALS & CONTESTS

To take place August 19, 2018,
immediately before the main conference

The ICPR 2018 Organizing Committee invites proposals for workshops, tutorials and contests in conjunction with ICPR 2018 (www.icpr2018.org).

Click on the links below for more information:

Workshops: <http://www.icpr2018.org/index.php?m=content&c=index&a=show&catid=29&id=22>

Tutorials: <http://www.icpr2018.org/index.php?m=content&c=index&a=show&catid=29&id=27>

Contests: <http://www.icpr2018.org/index.php?m=content&c=index&a=show&catid=29&id=31>

Deadlines:

Contest proposals: **December 1, 2017**

Workshop and Tutorial proposals: **December 15, 2017**

NOTE: Workshop proposals will be automatically delivered to the IAPR C&M chair and ICPR 2018 workshop chairs.

Workshop Co-chairs:

Zhaoxiang Zhang (China) zhaoxiang.zhang@ia.ac.cn
David Suter (Australia) dsuter@cs.adelaide.edu.au
Yingli Tian (USA) ytian@ccny.cuny.edu

Tutorial Co-chairs:

Greg Mori (Canada) mori@cs.sfu.ca
Zhouchen Lin (China) zlin@pku.edu.cn

Contest Co-chairs:

Dimosthenis Karatzas (Spain) dimos@cvc.uab.es
Xiang Bai (China) xbai@hust.edu.cn

Meeting Reports

Conferences, Workshops & Summer Schools



[PRIP'16](#)

13th International Conference on Pattern Recognition and Information Processing

October 3-5, 2016, Minsk, Belarus

<http://www.prip.bsu.by>

General Chairs:

Sergey Ablameyko, (Belarusian State University, Minsk, Belarus)

Viktor Krasnoproshin (Belarusian State University, Minsk, Belarus)

by the General Chairs

Background: The International Conference on Pattern Recognition and Information Processing (PRIP) started its history in 1991 in Minsk. Belarusian research in the area of pattern recognition and image processing was very intensive and productive in the former Soviet Union. As a result, the USSR Association of Pattern Recognition decided to organize the 1st All-Union Conference "Pattern Recognition and Image Analysis". The proposal to host the conference was made to Belarusian scientists. The conference was held in October 1991. In December 1992, after the collapse of the USSR, the Belarusian Association for Image Analysis and Recognition (BAIAR) was founded and in March 1993 the International Association of Pattern Recognition (IAPR) officially accepted the BAIAR as a national representative of Belarus in the IAPR.

The BAIAR association management decided that a second conference in the field of pattern recognition and image

processing should take place. The main goal of the PRIP conference: to establish cooperation between Belarusian researchers and the International Community in the fields of pattern recognition and image analysis. Since then, the conference has been held every two consecutive years. The conference in 2016 was the 13th conference in this series.

Nowadays, PRIP conferences have become well-known and well-recognized. Information about PRIP is included in all major home pages on computer vision and pattern recognition. Conference proceedings are cited in INSPEC, the main world database of publications. PRIP is held in cooperation with other scientific establishments. As with previous conferences in the series, PRIP'16 was endorsed by the IAPR.

Organization: PRIP'16 was organized by the Belarusian State University (Faculty of Applied Mathematics and Computer Sciences) with the assistance of the Belarusian State University of Informatics and Radioelectronics, United Institute of Informatics Problems of the National Academy

of Sciences of Belarus, and in collaboration with the International Associations for Pattern Recognition (IAPR).

Paper Submission and Review:

72 papers were submitted for PRIP'16 from 15 countries (132 authors). All submitted papers were reviewed by program committee members together with referees. As a result, 49 papers were selected for inclusion in the PRIP'16 scientific program.

Scientific program: PRIP'16 was made up of plenary and a regular sessions. At plenary sessions, presentations were made by five invited speakers. Among them, it should be noted, was the IAPR's President at the time Ingela Nyström (Sweden) with the keynote lecture "BoneSplit - A 3D painting tool for interactive bone segmentation in CT images". Other keynote talks: Vincenzo Piuri (Italy) "Emerging biometric technologies for automated border control gates", Luigi Gallo (Italy) "Vision-based human-computer interaction in the operating theatre", Vladimir Golovko (Belarus) "Deep Neural Networks: A theory, application

and new trends” and Alexander Tuzikov (Belarus) “Computer-based technologies for virtual screening and analysis of chemical compounds promising for anti-HIV-1 drug design”.

All the sessions were held in a single track and participants had enough time for discussion after each presentation.

Publication: Proceedings and program of PRIP conferences are regularly published by conference organizers.

This year, a collection of selected papers, among those accepted to the program of the PRIP Conference, are published in Springer’s Communications in

Computer and Information Science (CCIS) series <http://www.springer.com/us/book/9783319542195>.

Conclusion: The General Chairs and the participants consider that the PRIP’16 was highly successful. The keynote talks given were impressive, with an excellent balance between theory and practice. The invited speakers challenged the experienced researchers by introducing new research directions while establishing a strong theoretical background for new researchers.



Click on the image to go the publisher’s web site for this volume.

<http://asar.ieee.tn/previous/asar-2017/>



General Chairs:

[Abdel Belaïd](#) (University of Lorraine, France)

[Adel M. Alimi](#) (University of Sfax, Tunisia)

Program Chairs:

[Laurence Likforman-Sulem](#) (Telecom Paris Tech, France)

[Jihad El-Sana](#) (Ben-Gurion Univ. of the Negev, Israel)



In Memory of Professor Adnan Amin: *This first edition of ASAR 2017 was held as a tribute to Professor Adnan Amin (1951-2005). Adnan presented his doctorate (Doctorat d’Etat) in Nancy University in 1985 and spent a few years in this University as an Associate Lecturer. After several years in France and Kuwait, he joined in the School of Computer Science of the University of New South Wales in 1991. Adnan Admin contributed to develop the field of Arabic writing recognition. He was a pioneer, developing the first recognition systems and encouraging young researchers. He also was a man of peace and dialog between cultures. We all remember his kindness and friendliness.*

by Abdel Belaïd, General Co-chair

ASAR 2017 was hosted by the LORIA laboratory of the University of Lorraine, Nancy, France. It was organized in collaboration with the REGIM Laboratory of the University of Sfax, headed by Professor Adel Alimi (General Co-chair of ASAR). As usually, Habib Kammoun from the University

of Sfax, was the backbone of the technical organization of the workshop.

This first workshop ASAR’2017 attracted much interest in the community as we received over 60 submissions from 24 countries: Algeria, Australia, Canada, China, Egypt, France, Germany, India, Iraq, Israel, Japan, Jordan, Lebanon, Malaysia, Morocco,

Pakistan, Qatar, Russia, Saudi Arabia, Switzerland, Tunisia, United Arab Emirates, and United Kingdom. From these 60 papers, we accepted 37 papers. This resulted in an acceptance rate of 62%. Each paper was reviewed by 3 reviewers from the PC. 35 PC members and 11 external reviewers were in charge of these reviews.

ASAR was organized as a single-track conference, to provide a real opportunity for participants to meet. The program incorporated 7 oral sessions, two keynote talks, and a special session organized in discussion groups.

The oral sessions were entitled: Text Detection and Recognition in Videos and Scenes, Segmentation, Online Handwriting and Health Service, Datasets, Feature-based Recognition, Historical documents, and Text and Style recognition. Each oral presentation lasted 20 minutes.

Jihad El Sana animated the discussion group. Four themes were discussed:

1. Image processing issues (Robust binarization algorithm, Robust and accurate line segmentation in handwriting, Word segmentation in handwriting (delayed strokes, dots and diacritics))
2. Data issues: no data, no chocolate (Shortage of data, how to evaluate the quality

of synthetic data? We need data that is close to the task but with lexical variability, Crowdsourcing (reCAPTCHA), (Semi) Automatic annotation of unlabeled data,

3. Recognition issues (Writing variabilities (inter, intra, writing rate, ligatures, etc.), Should we do binarization? Work directly at the gray scale, Handling Out-of-vocabulary words, Detection and correction of non-words,
4. Performance evaluation issues (Consistency in the annotation, Need a clear guidelines to annotate data).

Two papers have been rewarded for their quality and have received the ASAR 2017 award.



Mohit Jain, Minesh Mathew and C.V. Jawahar. "Unconstrained Scene Text and Video Text Recognition for Arabic Script" (IIIT Hyderabad, India),

and

Majeed Kassis, Reem Alaasam, Alaa Abdalhaleem, Ahmad Drobj and Jihad El-Sana. VML-HD: The Historical Arabic Documents Dataset for Recognition Systems (Ben-Gurion University of the Negev, Israel).

Two invited lectures completed this scientific program: The first, by Gernot A. Fink from TU Dortmund University, Germany, entitled: "Statistical Methods for Arabic Handwriting Recognition".

The second by Christopher Kermorvant, Founder of Teklia, was titled: "Handwriting recognition: is it a solved problem?"

Each guest lecture lasted one hour including 45 minutes of presentation and 15 minutes of discussion.

<http://ccc.inaoep.mx/~mcpr2017/>

**9th Mexican Conference on Pattern Recognition MCPR 2017
June 21-24, 2017, Huatulco, Mexico**



Co-Chairs:

[Jose Francisco Martinez-Trinidad](#) (Mexico)

[Jesus Ariel Carrasco-Ochoa](#) (Mexico)

[Jose Arturo Olvera-Lopez](#) (Mexico)

by the General Chairs

MCPR2017 was organized by the Computer Science Department of the National Institute for Astrophysics Optics and Electronics (INAOE) and was sponsored by the Mexican Association for Computer Vision, Neural Computing and Robotics (MACVNR) and the International Association for Pattern Recognition (IAPR).

MCPR2017 received contributions from 16 countries. In total 55 papers were submitted, out of which 29 were accepted for publication in the MCPR2017 proceedings and for presentation at the conference in a single track. The review process was carried out by the Scientific Committee, which consisted of 50 outstanding

researchers, all specialists of pattern recognition, who prepared an excellent selection.

The 29 accepted papers were published by Springer-Verlag in the volume Pattern Recognition, LNCS 10267, edited by Jesus Ariel Carrasco-Ochoa, Jose Francisco Martinez-Trinidad and Jose Arturo Olvera-Lopez.



Click on the image above to go the publisher's web site for this volume.

The oral sessions covered the topics: Pattern Recognition and Artificial Intelligence Techniques, Image Processing and Analysis, Robotics and Remote Sensing, Natural Language Processing and Recognition, and Applications of Pattern Recognition.

Three professors were invited to give keynote addresses and tutorials on topics in Pattern Recognition:

- Prof. Prof. Ajith Abraham, Machine Intelligence Research Labs, USA.
- Prof. Prof. Sudeep Sarkar, Department of Computer Science, University of South Florida, USA. (IAPR invited speaker)
- Prof. Eduardo F. Morales Manzanares, Department of Computer Science, National Institute for Astrophysics Optics and Electronics, Mexico.

The last day of the conference the invited speakers jointly with Professor Humberto Sossa-Azuela presented enlightening tutorials on several Pattern Recognition topics.

For the fourth consecutive year, the conference included a Postgraduate Students' Meeting that allowed to the students to receive feedback from experienced researchers in addition to promoting their participation in conference events. Seven student papers were carefully selected to be presented at the Conference as posters and these contributions were also published as a special issue of the journal Research in Computing Science edited by the National Polytechnic Institute of Mexico.

During the event, meals and the conference dinner took place at the

venue hotel.

We are sure that MCPR2017 once again provided a forum for enhancing the collaboration between the Mexican Pattern Recognition researchers and the broader international Pattern Recognition community.

The MCPR steering committee for decided that the 10th Mexican Conference on Pattern Recognition will be held in Puebla, Mexico, in the last week of June 2018, organized by the Computer Science Department of the National Institute for Astrophysics Optics and Electronics and the University of Puebla.

[ICPRS 2017](#)

8th International Conference on Pattern Recognition Systems

11-13 July 2017
Madrid, Spain

<http://www.icprs.org/>

General Chair:

Sergio A. Velastin, FIET (Spain)

by the General Chair

The International Conference on Pattern Recognition Systems (ICPRS) is the annual conference of the Chilean Association for Pattern Recognition (AChiRP, the IAPR member society from Chile) and having its origins as the Chilean Workshop on Pattern Recognition. The Association was revitalised around 2014 and its members decided to internationalise its annual event and create a bridge between researchers in the region and beyond. ICPRS-16 took place in Talca, Chile and it was then decided to alternate ICPRS between Chile and other countries. In this way, ICPRS was held for the first time outside Chile at the

University Carlos III in Madrid, Spain. Although the organisers were naturally a bit anxious about this new step, we were very pleasantly surprised that we had a very good response (80+ papers) from many different countries (Korea, Taiwan, India, France, Jordan, Spain, Pakistan, Germany, Lebanon, Japan, Puerto Rico, Canada, USA, Portugal, Algeria, Italy, Colombia, Ecuador, Argentina, Saudi Arabia, Norway, Mexico, UK, Luxembourg and Chile). We are sure that endorsement by IAPR and the support of the IET (Institution of Engineering and Technology) as co-organisers and publishers was vital to raise awareness of a conference as it was held in



Europe for the first time. We are also grateful for the co-sponsorship of the Spanish Association for Artificial Intelligence (AEPIA) and the Spanish Association for Pattern Recognition and Image Analysis (AERFAI).

Things got to an interesting start with a keynote on the latest developments in biometrics by Prof. Ajay Kumar (FIAPR, Hong Kong Polytechnic University), followed by a keynote by Ricardo Contreras (Universidad de Concepción, Chile) on artificial-life approaches (e.g. genetic algorithms, ant colonies, bacteria) for pattern recognition problems. Prof. Kumar then gave us an illuminating tutorial on the use of finger knuckles as a forensic biometric. The following day was opened by a keynote from Prof. Elmar W Lang (University Regensburg, Germany) on various aspects of biomedical and signal analysis using machine learning techniques. Later that day, Dr. Emilia Barakova (Tech. University of Eindhoven, The Netherlands) told us about very interesting work being carried out on how robots could interact socially with humans and the range of applications that could be derived from that. The final day's tutorial by Salvador García and Sergio Ramírez-Gallego focused on tools for handling big data in "smart ways". The final keynote was given by the well-known Prof. Francisco "Paco" Herrera also from the University of Granada, Spain, on the hot topic of deep learning and, in particular, on data augmentation techniques to increase recognition

performance.

Throughout the three days we heard oral presentations from 37 papers (we had to set up parallel sessions for the first time!), selected through rigorous peer-review by an international scientific committee, on sessions whose topics included Biometrics, Remote Sensing, Image Analysis, Object Detection/Tracking/Recognition, Behaviour Analysis, Data Mining, Deep Learning, Medical Pattern Recognition, Voice and Speech, Statistical Pattern Recognition and Applications. The proceedings will be published on the IET's Digital Library, indexed by Inspec and so normally also indexed by IEEE Xplore and Scopus.

After careful deliberations, an experienced sub-committee awarded the prizes of:

- Best Poster to M. Schweigler, M. Grochowski, S. Tamrakar and S. Kowalewski of RWTH Aachen, Germany ("Ground Surface Pattern Recognition with Hidden Markov Models for Low Cost Positioning Improvement"),
- Runner-up best paper to F.X. Arias, E. Arzuaga, H. Sierra and L.O. Jiménez of University of Puerto Rico, USA ("Supervised Sparse-Representation Classification on Hyperspectral Images Using the City-Block Distance to Improve Performance"),
- IAPR best student paper to J. Hernandez-Ortega, A. Morales, J. Fierrez and A. Acien of Universidad Autonoma de Madrid, Spain ("Predicting Age Groups from Touch Patterns based on Neuromotor Models") and
- IAPR best paper to J.H. Uhl, S. Leyk, Yao-Yi Chiang, W. Duan, and C.A. Knoblock of University of Colorado Boulder and University of Southern California, USA ("Extracting Human Settlement Footprint from Historical Topographic Map Series Using Context-Based Machine Learning").



IAPR Best Paper Award:
Prof. Velastin (left) and Prof. Leyk

Congratulations to all of them!

On the social side, we organised a walking tour around historic Madrid that was very well received by all who took part (an idea we hope to repeat in other venues!).

Finally, AChiRP's president Dr Marcelo Mendoza announced that ICPRS-18 will take place May 22-24, 2018 in the port city of Valparaíso, Chile, a UNESCO World Heritage Centre. You are all cordially invited to send papers, and we hope to see you there.

14th International Summer School for Advances in Biometric Authentication: *Biometrics for Personalization and Forensic Identification*

Alghero, Italy
June 12-16, 2017



Directors:

[Massimo Tistarelli](#) (University of Sassari, Italy)

[Josef Bigun](#) (Halmstad University, Sweden)

Enrico Grosso (University of Sassari, Italy)

[Anil K. Jain](#) (Michigan State University, USA)

Editor's note:

Professor Tistarelli is the subject of the [Getting to Know...IAPR Fellows](#) Feature Article in this issue of the IAPR Newsletter.

~ Arjan Kuijper, Editor-in-Chief

by Massimo Tistarelli

The 2017 IAPR Summer School on Biometrics was the 14th edition of a strongly established training course started in 2003 to promote knowledge, dissemination, and research in Biometrics and related fields. The school was technically co-sponsored by Eurasip, the IAPR and the IEEE and co-organized by the EU RISE project IDENTITY.

The school's main theme was related to the application of multimodal biometric systems in forensic and security applications, but with specific attention to mobile applications. The school particularly addressed the impact of biometric technologies in criminal investigations and the algorithmic solutions to facilitate the integration of biometrics in operational scenarios.

Several subjects were taught at the summer school forming a total of 24 hours of theoretical lectures from 17 different lecturers and 4 hours of guided practical sessions on face recognition using MatLab¹

¹The school committee is grateful to MathWorks

Complete list of lecturers and the presented lectures

Monday, June 12

- Prof. Arun Ross (Michigan State University, USA) An introduction to biometrics and multibiometrics.
- Prof. Alessandro Verri (University of Genova, Italy) Machine learning in biometrics.
- Prof. Massimo Tistarelli (University of Sassari, Italy) Face recognition.
- Prof. Davide Maltoni (University of Bologna, Italy) Fingerprint recognition

Tuesday, June 13

- Prof. Arun Ross (Michigan State University, USA) Iris and periocular features for recognition
- Prof. Mark Nixon (University of Southampton, UK) Soft biometrics.
- Dr. Thirimachos Bourlai (West Virginia University, USA) Practical biometric recognition systems and project - PART 1.
- Dr. Peter Claes (University of Leuven, Belgium) Predicting faces from DNA.
- Student presentations

Wednesday, June 14

- Dr. Jonathon Phillips (NIST, USA) Challenges in face recognition and visual biometrics.
- Prof. Vishal Patel (Rutgers University, USA) Continuous authentication in the mobile world.
- Prof. Alice O'Toole (University of Texas at Dallas, USA) Biological recognition of human faces & bodies.
- Prof. Ida Gobbi (University of Bologna, Italy) Mechanisms for recognition of familiar faces.
- Prof. James Haxby (Dartmouth College, USA) Commonality of the fine-grained structure of neural representations across brains.

Thursday, June 15

- Prof. Chang-Tsun Li (University of Warwick, UK) Multimedia forensics and the EU IDENTITY project.
- Prof. John Mason (University of Swansea, UK) Speaker recognition.
- Dr. Vincent Despiegel (Ot-Morpho, France) Exploiting biometrics: an industrial perspective.

Friday June 16

- Prof. Nasir Memon (New York University, USA) Gesture-based recognition for personalization.
- Prof. Didier Meuwly (Netherlands Forensic Institute, Netherlands) The quantification of forensic evidence.
- Dr. Thirimachos Bourlai (West Virginia University, USA) Practical biometric recognition systems and project - PART 2.
- Prof. Fabio Bacchini (University of Sassari, Italy) The ethics of biometrics: Hidden discriminations.
- Prof. Massimo Tistarelli (University of Sassari, Italy) Concluding remarks and discussion.

tools. The subjects ranged from fundamentals such as machine learning and pattern recognition techniques, applied to biometrics, to more advanced topics such as neuroscience and applied subjects such as mobile and wearable devices, large-scale evaluation and the deployment of biometrics technologies in forensic cases.

This 14th edition of the summer school, featured a line-up of exceptional lecturers, selected from the editorial boards of top-level scientific journals and conferences. Prof. James Haxby, an outstanding neuroscientist, presented a lecture on the representation of visual data in the brain and topographic mapping to design such representations from fMRI recordings. Dr. Peter Claes, from the University of Leuven, presented a novel and challenging scenario for the prediction of faces from DNA. Prof. Vishal Patel, from Rutgers University, presented a lecture on the use of mobile devices for continuous user authentication. All lecturers presented the most up-to-date view in Biometric technologies and Forensic applications (see the full list of lecturers and lectures in the sidebar on the previous page).

33 participants attended the school. The class was formed by students coming from different universities, industries and research centres in the following 19 different countries (in brackets

for providing a special trial version of MatLab software, specifically for the school students to develop the practical sessions.

are the number of participants from this country, if greater than one): Australia, Brazil (3), China, Cuba (2), Czech Republic, Germany (3), Hong Kong, India, Israel, Italy (6), Netherlands, Norway, Poland (2), Russia, Slovenia, South Africa, Spain, United Kingdom (2), USA (2).

This year's students demonstrated a strong interest in the application of biometrics to forensic cases as well to other scenarios. Most of them are either working directly in the design of biometric systems, or pursuing high-level scientific research in the field. This not only facilitated a very good interaction between students and lecturers, even within the theoretical lectures, but also stimulated and challenged even the most experienced lecturers with questions and requests for explanations in the course of almost all presentations. As a result, both the students and lecturers have been much involved in technical discussions and plans for collaborations.

All students actively took part in the practical sessions. A project was assigned to break-out groups of the class, and an award was assigned to the best two projects.

Remarkably, representatives of government agencies and forensic laboratories also attended the school courses. This not only denotes the high reputation gained by the school, but also a deep interest of different government offices in the adoption of newer biometric technologies in the

service of citizens.

A total of six students from four different countries were partially supported by a grant from the IAPR sponsorship. The awarded students were selected on the basis of three criteria:

- Public recognition of their research record (number of publications, patents, talks at workshops and conferences, participation in previous meetings);
- Year of enrolment in the Phd program, more advanced students were privileged over younger ones;
- Active participation in IAPR activities.

The school participants were offered the possibility to display a poster on their research activity and to submit a research paper to be orally presented at the special session organized during the week. The participants presented 18 posters, which were available during the entire week. Three Phd students made an oral presentation of their on-going research work:

- "Optical Coherence Tomography used to Lift Forensic Latent Fingerprint Images Contact-less" - Rethabile Khutlang (South Africa)
- "Automatic Latent Fingerprint Value Prediction" - Tarang Chugh (USA)
- "Hyperspectral Face Recognition: Recent advances" - Siddharth Dabhade (India)

**Application deadline for the next edition:
February 15, 2018**

15th IAPR/Eurasip International Summer School
for Advanced Studies on Biometrics for Secure Authentication:

ASSURING TRUSTWORTHINESS OF BIOMETRICS
Alghero, Italy - June 11-15, 2018 - <http://www.biometrics.uniss.it/>



BOOKSBOOKSBOOKS

Computer Vision for Driver Assistance: Simultaneous Traffic and Driving Monitoring

by Mahdi Rezaei and Reinhard Klette

Springer, 2017

<http://www.springer.com/us/book/9783319505497>

Reviewed by Eduardo Destefanis, National University of Technology, Cordoba, Argentina

Introduction

In recent years, we observe an increase in the number and complexity of sensors in new vehicles, along with many sophisticated algorithms for analyzing data recorded by those sensors. This allows us to expect that autonomous driving (AD) for passenger cars should be a reality just in a few years from now.

Various vision-based driver assistance systems (VBDAS) are already operating in cars. Such systems include lane departure warning, night vision, traffic sign recognition, pedestrian detection, and solutions to several more tasks.

VBDAS are of interest in the current transition phase towards AD; a driver will still be needed for several years. This book presents topics related to this field that is also known as advanced vision-based driver assistance systems (AVBDAS).

The book describes and explains the integration of selected algorithms for traffic and driver monitoring (based on outward or inward sensor recording in the

ego-vehicle, i.e., the vehicle in which the system is operating). This integration is intended to solve simultaneous monitoring of driver behavior and road hazard detection, aimed at improving current VBDAS.

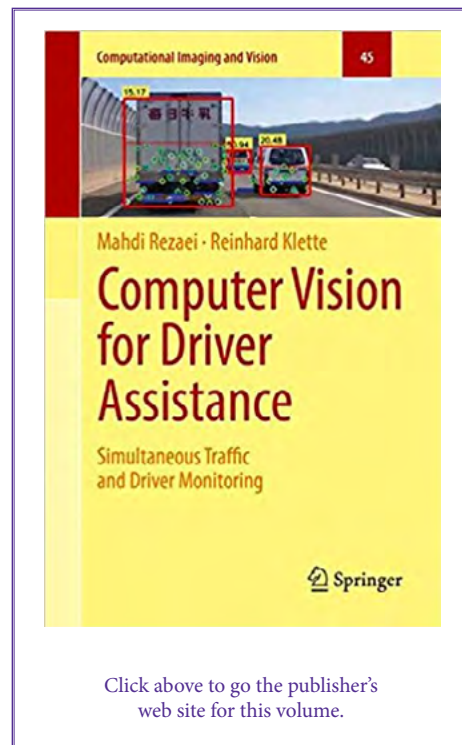
The book discusses selected algorithms for both, traffic and driver monitoring. More importantly, the book also outlines how to integrate both approaches for obtaining altogether reliable (i.e., accurate and robust) results, i.e., for warning a driver about a potential issue (e.g., consider a case when the system detects a vehicle driving dangerously close to the ego-vehicle on the right but that the eye gaze of the driver is at that very time towards the left). Such an integration of both monitoring approaches defines a solid basis to ensure a new generation of AVBDAS characterized by integrated outward and inward sensor recording.

Description

The book has eight chapters which are briefly outlined in the following.

Chapter 1, Vision-Based Driver-Assistance Systems, provides a general introduction to VBDAS and the tasks involved. Chapter 2, Driver-Environment Understanding, is devoted to VBDAS algorithms designed for the specific context of interactions between driver monitoring and road environment analysis. Chapters 1 and 2 can be seen as an up-to-date introduction for a general audience.

Chapter 3, Computer Vision



Basics, starts to address a reader interested in details of computer vision solutions; the chapter describes theoretical and mathematical foundations of some computer vision techniques relevant to AVBDAS.

Chapter 4, Object Detection, Classification, and Tracking, informs at a comparable level about the basics of classification and machine learning. In particular, the chapter discusses again concepts and processes relevant to VBDAS.

The next four chapters discuss current and fairly novel solutions for AVBDAS. Chapter 5, Driver Drowsiness Detection, describes basic and enhanced methods for face detection and their application for driver drowsiness detection or awareness evaluation. A Kalman

filter-based solution for face tracking is proposed, aimed at dealing with challenging imaging conditions, such as intense street lights, strong shades, disturbing backlights, or partial occlusions.

The main aim of Chapter 6, Driver Inattention Detection, is to achieve a 6D head-pose estimation defined by coordinates of roll, yaw, pitch, position of the head, and time. The goal is to assess a driver's level of fatigue or distraction by evaluating head poses.

Chapter 7, Vehicle Detection and distance Estimation, informs in detail about a purpose-designed vehicle detector that results from a combined analysis of Haar-like features (also suggesting a new class of Haar-like features), detected corners and horizontal line segments, and visual symmetry. A multi-clue vehicle detector results by Dempster-Shafer fusion.

Chapter 8, Fuzzy Fusion for Collision Avoidance, brings it all together – it describes how to determine the current risk level based on the results of the algorithms explained in the previous chapters. A multi-dimensional parameter space combines findings about driver and traffic scene. As an example, a space defined by eight parameters is discussed. Fuzzy logic is applied for defining risk levels.

Discussion and review

Chapters 5 to 8 inform about common computer vision and learning methods, combined with introductions of novel methods. Driver monitoring is an essential component of the discussed approach. Methods, described for analyzing sensor data obtained by outward recording, would also be of relevance for AD. Driver monitoring includes classification, detection and tracking of a

driver's facial features, eye status monitoring, and head pose detection. For road hazard monitoring, the focus is on vehicle detection and distance estimation.

The book also discusses particular ways for understanding the 3-dimensional world just based on monocular recording. Distance calculation is based on bird's-eye view calculations and a simplified camera projection model. Improvements in the training phases of used classifiers using novel methods (called AGHaar and DGHaar) are presented for both inward and outward data recording. The important concept of symmetry, so common in natural environments, is cleverly used in the book for enhancing classification results.

The timeliness of this book is given by contributing to the next generation of AVBDAS. In general, it can be characterized as being an advanced introduction to some features of the next generation VBDAS that also provides a conceptual basis for further enhancements. A valuable aspect of the book, which sometimes is difficult to find in other books in the computer vision field, is that the scope is realistic and adequate to the current state of the art.

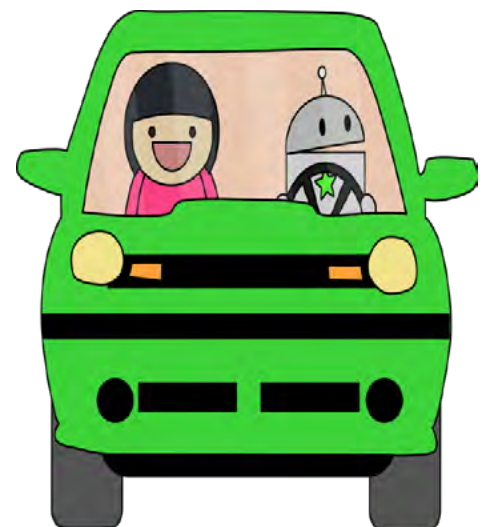
Both authors are experts in their field. The second author has worked in the field of VBDAS for a decade, in close relation with other leading researchers in this field, such as Dr. Uwe Franke (Daimler Research).

Regarding the potential audience of the book, the reviewer sees it as a valuable resource for the information science field, in particular, for those interested in computer vision. It constitutes a paramount contribution for those engaged in R&D activities for a new generation of VBDAS. The

book is also appealing for pre- or postgraduate students, lecturers, researchers, and developers related to the area of VBDAS, or merely just interested in this area. Chapters 1 and 2 address a general audience, and chapters 3 and 4 provide a brief and exact introduction into technical concepts for those who like to follow the provided material in chapters 5 to 8 in detail.

The particular feature, that makes this book so relevant, is defined by joining two existing fields of research, thus basically pioneering a new field. The measurement of a driver's attention is complemented by simultaneously evaluating the scene in front of the car. This leads to a defined risk. The book not only explains a possible way to solve each stage of such a complex system, but also gives a global framework to process both information channels consistently.

For this reason the book can be recommended as being a valuable source for researchers interested in this new approach. The book certainly contributes to establishing AVBDAS as a novel and highly dynamic field of applied research. Opportunities of computer vision are critically evaluated and developed for enhancing modern vehicle technology.





Springer and CRC Press have partnered with the IAPR Newsletter to offer free books/ebooks to reviewers.

If you have interest in and some knowledge of the topic, email us. Depending upon the publisher's availability, you will get an ebook or a hardcopy book or both. In some cases, the publisher may send the ebook first and the hardcopy after review. In future issues of the Newsletter, we may publish a list of pending reviews.

~[Owais Mehmood](#), Associate Editor for Book Reviews



We are offering the following Springer titles for review:

The most recent titles published in Springer's "Advances in Computer Vision and Pattern Recognition" series are:

* **"Domain Adaptation in Computer Vision Applications"** by Gabriela Csurka (Ed.): <http://www.springer.com/book/9783319583464>

* **"Deep Learning for Biometrics"** by Bir Bhanu et al. (Eds.): <http://www.springer.com/book/9783319616568>

* **"Deep Learning and Convolutional Neural Networks for Medical Image Computing"** by Le Lu et al. (Eds.): <http://www.springer.com/book/9783319429984>

Other titles of interest are:

* **"Introduction to Intelligent Surveillance"** (Second Edition) by Wei Qi Yan: <http://www.springer.com/book/9783319602271> (forthcoming)



We are offering the following CRC Press titles for review:

A full list of CRC pattern recognition offerings is here <https://www.crcpress.com/search/results?kw=Pattern+Recognition>):

* **Differential Equations for Engineers: The Essentials** by David V. Kalbaugh, ISBN 9781498798815 - CAT# K30547, <https://www.crcpress.com/Differential-Equations-for-Engineers-The-Essentials/Kalbaugh/p/book/9781498798815>

* **Introduction to Computing Applications in Forestry and Natural Resource Management** by Jingxin Wang, ISBN 9781138626300 - CAT# K31838, <https://www.crcpress.com/Introduction-to-Computing-Applications-in-Forestry-and-Natural-Resource/Wang/p/book/9781138626300>

* **Radar for Indoor Monitoring: Detection, Classification, and Assessment** by Moeness Amin, ISBN 9781498781985 - CAT# K30021, <https://www.crcpress.com/Radar-for-Indoor-Monitoring-Detection-Classification-and-Assessment/Amin/p/book/9781498781985>

* **Magnetic Sensors and Devices: Technologies and Applications** by Laurent A. Francis, Kirill Poletkin, Krzysztof Iniewski, ISBN 9781498710978 - CAT# K25044, <https://www.crcpress.com/Magnetic-Sensors-and-Devices-Technologies-and-Applications/Francis-Poletkin-Iniewski/p/book/9781498710978>





This bulletin board
contains items of interest to the
IAPR Community

UPCOMING DEADLINES:

NOVEMBER 1, 2017:

[Letter of Intent to Host ICB 2019](#)

NOVEMBER 15, 2017:

[Full Proposal to Host ICB 2019](#)

DECEMBER 1, 2017:

[IAPR Fellow Nominations](#)

AND

[ICPR2018 Contest Proposals](#)

DECEMBER 15, 2017:

[IAPR2018 Workshop and Tutorial
Proposals](#)

Don't miss these important items in this issue:

[Calls from IAPR Committees:
Education Committee,
Industrial Liaison Committee
Executive Committee](#)

[Calls for Nominations for
Awards to be Presented at ICPR 2018:
K-S Fu Prize,
J. K. Aggarwal Prize,
Maria Petrou Prize,
and IAPR Fellows](#)

[Call for Papers and
Workshop, Tutorial, and Contest Proposals
for ICPR2018](#)



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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.

* Asterisks denote non-IAPR events *

	Meeting	Report on previous edition	Venue	
2017	CIARP 2017 : 22nd Iberoamerican Congress on Pattern Recognition	CIARP 2016	Chile	
	GREC 2017 : 12th International Workshop on Grapics Recognition	GREC 2015	Japan	
	HIP'2017 : 4th International Workshop on Historical Document Imaging and Processing		Japan	
	ICDAR 2017 : 14th International Conference on Document Analysis and Recognition		Japan	
	PSIVT 2017 : 8th Pacific Rim Symposium on Image and Video Technology	PSIVT 2015	China	
	ACPR 2017 : 4th Asian Conference on Pattern Recognition	ACPR 2015	China	
	DICTA 2017 : 2017 International Conference on Digital Image Computing: Techniques and Applications	DICTA 2016	Australia	
	PreMI 2017 : 7th International Conference on Pattern Recognition and Machine Intelligence	PreMI 2015	India	
DEC	RFMI 2017 : Seventh International Workshop on Representations, analysis and recognition of shape and motion FroM Imaging data	RFMI 2016	France	
2018	JAN	ICPRAM 2018 : The 7th International Conference on Pattern Recognition Application and Methods	ICPRAM 2017	Portugal
	FEB	ICB 2018 : 11th International Conference on Biometrics	ICB 2016	Australia
	MAR	ASAR 2018 : 2nd IEEE International Workshop on Arabic and derived Script Analysis and Recognition	ASAR 2017	UK
		MedPRAI 2018 : The Second Mediterranean Conference on Pattern Recognition and Artificial Intelligence	MedPRAI 2016	France
	APR	DAS 2018 : 13th International Workshop on Document Analysis Systems	DAS 2016	Austria
	JUN	IWBF 2018 : 6th IAPR/IEEE International Workshop on Biometrics and Forensics	IWBF 2016	Italy
	AUG	ICFHR 2018 : 16th International Conference on Frontiers in Handwriting Recognition	ICFHR 2016	USA
		ICPR 2018 : 24th International Conference on Pattern Recognition	ICPR 2016	China

2020 meetings on next page...



Meeting and Education Planner

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NOTE: Highlighting indicates that the paper submission deadline has not yet passed.

* Asterisks denote non-IAPR events *

		Meeting	Report on previous edition	Venue
2020	AUG	ICPR 2020: 25th International Conference on Pattern Recognition		Italy
	SEP	ICFHR 2020: 25th International Conference on Pattern Recognition		Germany



Thoughts on articles you've read in this issue of the IAPR Newsletter?

Ideas for features you'd like to see in the IAPR Newsletter?

Send your comments to:

Arjan Kuijper, Editor-in-Chief
arjan.kuijper@igd.fraunhofer.de

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Deadline for the next issue: December 15, 2017

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