## [IAPR-TC10] Newsletter 154 – March 2023

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Welcome to the March edition of the TC10 newsletter.

In this issue, you will find the call for papers of GREC 2023 workshop that will be held in conjunction of ICDAR 2023 in San José and the list of other 8 workshops and 19 competitions of ICDAR 2023. The extended call for proposal of the document analysis summer school and its next edition which is already looking for a host as well. Finally, please find the summary of the last IJDAR issue and a new job offers in Barcelona.

I wish you a pleasant reading,

Christophe Rigaud IAPR-TC10 Communications Officer

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**Call for contributions:** feel free to contribute to TC10 newsletters, by sending any relevant news, event, notice, open position, dataset or link to us on iapr.tc10[at]gmail.com

# 1) Upcoming deadlines and events

### 2023

• Deadlines:



- March 31, hosting proposal due SSDA2023 extended
- April 17/24, abstract/full paper submission deadline GREC 2023 (https://grec2023.univ-lr.fr/)
- Events:
  - August 21-23, 2023, conference ICDAR 2023 (https://icdar2023.org/), San José, California, USA
  - August 24-26, 2023, workshops, tutorials, and doctoral consortium of ICDAR 2023 (https://icdar2023.org/)
  - August 25, workshop GREC 2023 (https://grec2023.univ-lr.fr/), San José, California, USA

#### 2024 and later

- Events:
  - $\circ~$  September 2024, conference ICDAR 2024, Athens, Greece

## 2) Call for papers of GREC 2023

### 15th International Workshop on Graphics Recognition (GREC)

August 25, 2023 San Jose, USA http://grec2023.univ-lr.fr/ (http://grec2023.univ-lr.fr/)

GREC workshops provide an excellent opportunity for researchers and practitioners at all levels of experience to meet colleagues and to share new ideas and knowledge about graphics recognition methods. Graphics Recognition is a sub-field of document image analysis that deals with graphical entities in engineering drawings, comics, musical scores, sketches, maps, architectural plans, mathematical notation, tables, diagrams, etc.

The aim of this workshop is to maintain a very high level of interaction and creative discussions between participants, maintaining a "workshop" spirit, and not being tempted by a "mini-conference" model.

GREC 2023 will continue the tradition of past workshops held at the Penn State University (USA), Nancy (France), Jaipur (India), Kingston (Canada), Barcelona (Spain), Hong Kong (China), Curitiba (Brazil), La Rochelle (France), Seoul (Corea), Lehigh (USA), Nancy (France), Kyoto (Japan), Sydney (Australia) and Lausanne (Switzerland).

The workshop will comprise several sessions dedicated to specific topics related to graphics in document analysis and graphic recognition. For each session, there will be an invited presentation describing the state of the art and stating the open questions for the session's topic, followed by a number of short presentations that will contribute by proposing solutions to some of the questions or presenting results of the speaker's work. Each session will be concluded by a panel discussion.

We encourage the authors to submit papers on the topics detailed below.

#### Topics

- Analysis and interpretation of graphical documents, such as: Engineering drawings, floor plans, mathematical expressions, comics, maps, music scores, patents, diagrams, charts, tables, etc.

- Recognition of graphic elements, such as symbols, logos, stamps, drop caps, drawings, etc.
- Identification and localization of graphical mark-ups and annotations in written documents.
- Raster-to-vector techniques.

- Graphics-based information retrieval.
- Graphics recognition in Comics.
- Historical graphics recognition and indexing.
- Forensics (Writer identification/verification) in graphic documents.
- Description of complete systems for interpretation of graphic documents.
- Datasets and performance evaluation in graphics recognition.
- Authoring, editing, storing and presentation systems for graphics multimedia documents.
- 3D models from multiple 2D views (line drawings).
- Digital ink processing.
- Sketch recognition and understanding.
- Camera-based graphics recognition.
- Graphics recognition in born digital documents.
- Analysis of graphics on new digital interfaces.
- Graphics detection and recognition in real scenes.
- Graphics analysis in medical images.

#### **Guidelines for authors**

For this edition, authors are invited to submit two types of paper :

- **Full papers** describing complete works of research (12-15 pages). They will undergo a rigorous review process with a minimum of 2 reviews considering the originality of work.

- **Short papers** providing an opportunity to report on research in progress and to present novel positions on graphic recognition (up to 6 pages).

Accepted papers (full and short papers) will be published in a Springer LNCS volume dedicated to all ICDAR workshops.

The submitted papers will respect the same policy and conditions of ICDAR 2023 conference papers. Papers should be formatted according to the instructions and style files provided by Springer. The LaTeX template for LNCS can be downloaded on the GREC Website (see Guidelines for authors at: <u>https://grec2023.univ-lr.fr/index.php/guidelines-for-authors/ (https://grec2023.univ-lr.fr/index.php/guidelines-for-authors/ (https://grec2023.univ-lr.fr/index.php/guidelines-for-authors/)</u>).

#### **Important dates**

Abstract submission: April 17th, 2023 Full paper submission: April 24th, 2023 – 11:59PM Pacific Time Zone

Acceptance notification: May 24th, 2023 Camera ready due: May 31th, 2023

Workshop: August 25th, 2023

More information at: http://grec2023.univ-lr.fr/ (http://grec2023.univ-lr.fr/)

General Chair: Jean-Christophe Burie Program Co-Chair: Nathalie Girard, Jorge Calvo-Zaragoza, Samit Biswas

## 3) Competitions of ICDAR 2023

Nineteen competitions are now up and running! Please find the list on <u>ICDAR 2023 Competitions</u> (<u>https://icdar2023.org/program/competitions/</u>) webpage and below to visit their websites, discover proposed tasks, datasets and participation deadlines.



Born Digital Video Text QA (BDVT-QA (https://tianchi.aliyun.com/specials/promotion /ICDAR\_2023\_Competition\_on\_Born\_Digital\_Video\_Text\_QA))

Detecting Tampered Text in Images (DTT) (https://tianchi.aliyun.com/competition/entrance/532048 /introduction)

Detection & Classification of Writing Activity in Air (https://github.com/jooni41/Detection-and-Classificationof-writing-activity-in-Air)

Detection and Recognition of Greek Letters on Papyri (https://lme.tf.fau.de/competitions/2023-competition-ondetection-and-recognition-of-greek-letters-on-papyri/)

This competition investigates the performance of glyph detection and recognition on a very challenging type of historical document: Greek papyri. The detection and recognition of Greek letters on papyri is a preliminary step for computational analysis of handwriting that can lead to major steps forward in our understanding of this major source of information on Antiquity. It can be done manually by trained papyrologists. It is however a time-consuming task that would need automatising. We provide two different tasks: localization and classification or classification only. The document images are provided by several institutions and are representative of the diversity of book hands on papyri (a millennium time span, various script styles, provenance, states of preservation, means of digitization and resolution).

#### Document Information Localization and Extraction (DocILE) (https://docile.rossum.ai/)

Document (https://rrc.cvc.uab.es/?ch=23&com=introduction)UnderstanDing (https://rrc.cvc.uab.es/?ch=23& com=introduction) of Everything (DUDE) (https://rrc.cvc.uab.es/?ch=23&com=introduction) The ICDAR 2023 competition on Document Understanding of Everything (DUDE) proposes a new dataset for benchmarking Document Understanding systems under real-world settings that have been previously overlooked. In contrast to previous datasets, we extensively source multi-domain, multi-purpose, and multi-page documents of various types, origins, and dates. Importantly, we bridge the yet unaddressed gap between Document Layout Analysis and Question Answering paradigms by introducing complex layout-navigating questions and unique problems that often demand advanced information processing or multi-step reasoning. Finally, the multi-phased evaluation protocol also assesses the few-shot capabilities of models by testing their generalization power to previously unseen questions and domains, a condition essential to business use cases prevailing in the field. Submission deadline: 15 March 2023 AoE.

Harvesting Answers and Raw Tables from Infographics (CHART-Infographics) (https://chartinfo.github.io/) Hierarchical Text Detection and Recognition (HierText) (https://rrc.cvc.uab.es/?ch=18&com=introduction) Indic Handwriting Text Recognition (IHTR) (https://ilocr.iiit.ac.in/ihtr/) Language-Guided Document Editing (DocEdit) (https://icdar2023-docedit.github.io/) Reading the Seal Title (ReST) (https://rrc.cvc.uab.es/?ch=20&com=introduction) Recognition of Handwritten Mathematical Expressions (CROHME) (https://crohme2023.ltu-ai.dev/)

Recognition of Multi-line Handwritten Mathematical Expressions (https://ai.100tal.com/icdar)

RoadText Video Text Detection, Tracking and Recognition (RoadText) (https://rrc.cvc.uab.es/?ch=25)

Robust Layout Segmentation in Corporate Documents (DocLayNet) (https://ds4sd.github.io/icdar23-doclaynet/)

Structured Text Extraction from Visually-Rich Document Images (SVRD) (https://rrc.cvc.uab.es/?ch=21)

Text-based Video Question Answering on News Videos (NewsVideoQA (https://rrc.cvc.uab.es/?ch=24))

<u>Video Text Reading Competition for Dense and Small Text (DSText) (https://rrc.cvc.uab.es/?ch=22& com=introduction)</u>

Visual Question Answering on Business Document Images (VQAonBD) (https://ilocr.iiit.ac.in/vqabd/)

# 4) Workshops of ICDAR 2023

Nine workshops will be held in conjunction with ICDAR2023. Here is a list of their websites for more information and important dates.

# Automatically Domain-Adapted and Personalized Document Analysis (ADAPDA) (https://sites.google.com/view/adapdaicdar23)

• This workshop aims at gathering expertise and novel ideas for personalized Document Analysis tasks (training and adaptation strategies of writer, language, and visual-specific models, new benchmarks, and data collection strategies), both on-line and off-line, with attention to privacy-preserving solutions.

# Camera-Based Document Analysis and Recognition – 10th edition (CBDAR 2023) (https://dll.seecs.nust.edu.pk/cbdar2023)

• The ICDAR 2023 Workshop on Camera-Based Document Analysis and Recognition (CBDAR 2023) will be the successor of the previous nine CBDAR workshops. The CBDAR series has a special focus on the analysis of camera captured documents and text. CBDAR is a forum for presenting up-to-date research, sharing experiences, and fomenting discussions on future directions in camera based document analysis.

#### Computational Document Forensics – 4th edition (IWCDF) (https://warwick.ac.uk/siplab/IWCDF2023/)

• The Fourth International Workshop on Computational Document Forensics (IWCDF 2023) aims at presenting the most recent theoretical and practical advances related to digital document forgery while fostering discussions between academy and industry.

#### Computational Paleography – 2nd edition (IWCP) (https://www.csmc.unihamburg.de/iwcp2023.html)

• The goal of this workshop is to bridge the gap between the different research fields analyzing handwritten scripts in ancient artifacts. It is primarily targeted at computer scientists, natural scientists, and humanists involved in the study of ancient writing systems and their materials, but it is not limited to these groups. By promoting discussion among these three communities, the workshop aims to encourage future interdisciplinary collaborations that will address current research questions about ancient manuscripts.

#### Graphics Recognition – 15th edition (GREC 2023) (https://grec2023.univ-lr.fr/)

• GREC 2023 will provide an excellent opportunity for researchers and practitioners at all levels of experience to meet colleagues and to share new ideas and knowledge about graphics recognition methods. Graphics Recognition is a sub-field of document image analysis that deals with graphical entities in engineering drawings, comics, musical scores, sketches, maps, architectural plans, mathematical notation, tables, diagrams, etc.

#### Historical Document Imaging and Processing – 7th edition (HIP'23) (https://blog.sbb.berlin/hip2023/)

• The 7th International Workshop on Historical Document Imaging and Processing (HIP'23) will bring together researchers from various fields working on document image acquisition, restoration, analysis, indexing, and retrieval to make these documents accessible in digital libraries. It is the seventh satellite workshop of ICDAR dedicated to this topic, following HIP'11 in Beijing, HIP'13 in Washington, HIP'15 in Nancy, HIP'17 in Kyoto and HIP'19 in Sydney and HIP'21 in Lausanne (hybrid) that were a significant success with strong participation. HIP aims to provide the researchers with a forum that is complementary and synergetic to the main sessions at ICDAR on document analysis and recognition.

#### Machine Learning – 4th edition (WML) (https://www.isical.ac.in/~cvpr /ICDARWML23/)

• Since 2010, the year of initiation of the annual ImageNet Competition where research teams submit programs that classify and detect objects, machine learning has gained significant popularity. In the present age, Machine learning, in particular deep learning, is incredibly powerful to make predictions based on large amounts of available data. There are many applications of machine learning in Computer vision, pattern recognition including Document analysis, Medical image analysis etc. In order to facilitate innovative collaboration and engagement between document analysis community and other research communities like computer vision and images analysis etc. here we plan to organize this workshop of Machine learning.

#### Machine Vision and NLP for Document Analysis – 1st edition (VINALDO) (https://sites.google.com/view/vinaldo-workshop-icdar-2023/home)

• The first edition of the machine VIsion and NAtural Language processing for DOcument analysis (VINALDO) workshop comes as an extension of the GLESDO workshop, where we encourage the description of novel problems or applications for document analysis in the area of information retrieval that has emerged in recent years. We also encourage works that include NLP tools for extracted text, such as language models and Transforms. Finally, we also encourage works that develop new scanned document datasets for novel applications.

#### Scaling-up Document Image Understanding (ScalDOC) (http://cvit.iiit.ac.in /scaldoc2023/)

• Document Analysis has long suffered from both a fragmented landscape of task-specific datasets and a strong focus on narrow-focused information extraction and document conversion tasks. The Scaling-up document Image understanding workshop aims to open the discussion on possible ways for the community to align data preparation efforts and define large-scale (grand) challenges that drive progress in the field.. This is meant to be one of a series of such events to be organized on our scientific forums in the near future. The aspiration is to set the seed for an initiative to create our own community's document-oriented "ImageNet", over which multiple long-term grand challenges can be defined.

## 5) Summer school call for proposal SSDA

## 2023 and 2024 – extended

### Call for proposals: IAPR TC10/TC11 Summer School on Document Analysis

#### **Important Dates:**

January 23, 2023 Proposal Submission Deadline March 31, 2023 new Proposal Submission Deadline

Note that proposals for organizing the summer school in 2024 are also welcome.

#### Please submit proposals via email to:

- Foteini Simistira Liwicki (TC11 Representative), foteini.liwicki@ltu.se
- KC Santosh (TC10 Representative), Santosh.KC@usd.edu

Part of the mission of International Association for Pattern Recognition (IAPR) TC11 and TC10 is to promote high quality educational activities related to Reading Systems and Graphics Recognition. Responding to this need, TC10 and TC11 have established a series of summer schools. After the successful organization of summer schools in Jaipur, India, La Rochelle, France, Islamabad, Pakistan, and Luleå, Sweden, we are now soliciting proposals for the organization of the fifth "IAPR TC10/TC11 Summer School on Document Analysis" (SSDA) in 2023.

The "IAPR TC10/TC11 Summer School on Document Analysis" is intended to become the primary educational activity of IAPR TC11 (Reading Systems) and TC10 (Graphics Recognition). The School is meant to be a training activity where participants are exposed to the latest trends and techniques of Reading Systems and Graphics Recognition.

The aim of the School is to provide both an objective and clear overview and an in-depth analysis of the state-ofthe-art research in selected topics of Reading Systems and Graphics Recognition. The School should aim to provide a stimulating opportunity for young researchers and PhD students in the field.

Individuals and groups who are interested in Reading Systems and Graphics Recognition are invited to submit proposals for organizing and hosting the 2023 IAPR TC10 / TC11 Summer School. Note that submissions for organizing and hosting the 2024 IAPR TC10 / TC11 Summer School are also welcome. As the previous summer schools were organized in Asia, Europe, and the Sub-continent, organizing teams from the Americas are encouraged to submit a bid in order to facilitate the envisioned rotational scheme of the IAPR TC10 / TC11 Summer School.

In order to fully plan their bid, it is expected that proposers familiarize themselves with the guidelines for organizing the School first. The Guidelines can be found at the TC11Web site: <u>http://www.iapr-tc11.org/mediawiki/index.php/Guidelines\_for\_Organising\_and\_Bidding\_to\_Host\_the\_TC\_10\_/\_TC11\_Summer\_School (http://www.iapr-tc11.org/mediawiki/index.php/Guidelines\_for\_Organising\_and\_Bidding\_to\_Host\_the\_TC\_10\_/\_TC11\_Summer\_School)</u>

The submission of a bid implies full agreement with the rules and procedures for organizing the School. Especially, this means that organizers will apply for IAPR support and that the event will use the series title "IAPR TC10/TC11 Summer School on Document Analysis" with an optional sub-title denoting a special focus of the respective event.

Please consider submitting a proposal for this increasingly important event for the TC10/TC11 community. If you have questions, please do not hesitate to contact the TC11 and TC10 SSDA representatives: Foteini Simistira Liwicki (TC11 Representative) and KC Santosh (TC10 Representative).

#### **Previous events:**

As a reference, the 2021 Summer School on Document Analysis was held in Luleå, Sweden with the theme Digital Transformation in a changing world (URL: <u>https://www.ltu.se/research/subjects/Maskininlarning</u>/<u>Workshoppar/SSDA-2021?l=en (https://www.ltu.se/research/subjects/Maskininlarning/Workshoppar/SSDA-2021?l=en)</u>)

# 6) IJDAR article alert (vol. 26, issue 1)

Volume 26, issue 1, March 2023. Here are the 5 articles of this issue:

<u>YOLO-table: disclosure document table detection with involution (YOLO-table: disclosure document table detection with involution)</u> Daqian Zhang, Ruibin Mao, Runting Guo, Yang Jiang, Jing Zhu

Open writer identification from offline handwritten signatures by jointing the one-class symbolic data analysis classifier and feature-dissimilarities (https://link.springer.com/article/10.1007/s10032-022-00403-w) Mohamed Anis Djoudjai, Youcef Chibani

Sequence-aware multimodal page classification of Brazilian legal documents (https://link.springer.com/article /10.1007/s10032-022-00406-7)

Pedro H. Luz de Araujo, Ana Paula G. S. de Almeida, Fabricio Ataides Braz, Nilton Correia da Silva, Flavio de Barros Vidal, Teofilo E. de Campos

<u>Pho(SC)-CTC—a hybrid approach towards zero-shot word image recognition (https://link.springer.com/article/10.1007/s10032-022-00407-6)</u> Ravi Bhatt, Anuj Rai, Sukalpa Chanda, Narayanan C. Krishnan

Cover-based multiple book genre recognition using an improved multimodal network (https://link.springer.com /article/10.1007/s10032-022-00413-8) Assad Rasheed, Arif Iqbal Umar, Syed Hamad Shirazi, Zakir Khan, Muhammad Shahzad

## 7) Job offers – 1 new

### 2x Post-doctoral positions at the Computer Vision Center, Barcelona

We are seeking two postdoctoral researchers to join the Vision, Language and Reading group at the Computer Vision Center (CVC), in Barcelona, Spain, focused on (1) COMPUTER VISION and (2) FEDERATED LEARNING AND DIFFERENTIAL PRIVACY.

The positions are available for a minimum of 2 years, and are linked to the "European Lighthouse on Secure and Safe AI" (ELSA), a European Project funded by Horizon Europe and backed by the ELLIS network of excellence. The project covers research topics that include robustness, privacy and human agency and will develop use cases in areas such as autonomous driving, robotics, health and document intelligence. The candidate researchers will focus on privacy aware methods for document understanding.

#### **CANDIDATE 'S PROFILE**

The candidate should possess a PhD in machine learning or computer vision and have a strong publication record. We are looking for candidates who have publications in top conferences like CVPR, ECCV, ICCV, ICDAR,

NeurIPS, ICML, ICLR.

The candidate should have a strong background in machine learning and computer vision. Experience on document image analysis and/or visual question answering would be positive. The applicants are expected to be fluent in both oral and written communication in English. They should work well in a team while demonstrating initiative and independence. The candidate is expected to co-supervise PhD students.

The successful candidate is expected to contribute to the design and development of AI solutions for document understanding, employing privacy preserving techniques and infrastructures set up by the ELSA project.

#### THE COMPUTER VISION CENTER

The selected candidate will work in the Computer Vision Centre (CVC), Barcelona, a research institute comprising more than 130 researchers and support staff, dedicated to computer vision research and knowledge transfer. With a strong international projection and links to the industry, the Computer Vision Centre offers an exciting environment for scientific career development. The Computer Vision Centre has a plan for expansion of its permanent research staff base and has received the "HR Excellence in Research" award as a provider and supporter of a stimulating and favourable working environment.

The direct responsible for these posts will Dr Dimosthenis Karatzas, leading the Vision, Language and Reading research group at the CVC.

Barcelona is a vibrant city and an important Artificial Intelligence hub. The high quality of life is combined with an open and international looking character of the city. Barcelona is very well connected by air, sea and ground transportation. The region of Catalonia boosts its own AI strategy, in which the CVC is a key player.

#### **RESEARCH CONTACT**

If you are interested in the position, please contact Dr Dimosthenis Karatzas for more information and applications (<u>dimos@cvc.uab.es (mailto:dimos@cvc.uab.es</u>))

#### APPLICATION PROCESS

Apply by filling in the online form at: Computer Vision: <u>http://www.cvc.uab.es/blog/2023/01/11/postdoc-position-in-computer-vision/</u> (<u>http://www.cvc.uab.es/blog/2023/01/11/postdoc-position-in-computer-vision/</u> FL and DP: <u>http://www.cvc.uab.es/blog/2023/01/11/postdoc-position-in-computer-vision/</u> (<u>http://www.cvc.uab.es/blog/2023/01/11/postdoc-position-in-computer-vision/</u>)

#### **MORE INFO**

ELSA project: <u>https://elsa-ai.eu/ (https://elsa-ai.eu/)</u> Computer Vision Center: <u>http://www.cvc.uab.es/ (http://www.cvc.uab.es/)</u> Vision, Language and Reading group: <u>https://www.vlr.ai/ (https://www.vlr.ai/)</u>

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