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Experimental IR Meets Multilinguality, Multimodality, and Interaction

10th International Conference of the CLEF Association, CLEF 2019
Lugano, Switzerland, September 9–12, 2019
Proceedings

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Preface

Since 2000, the Conference and Labs of the Evaluation Forum (CLEF) has played a leading role in stimulating research and innovation in the domain of multimodal and multilingual information access. Initially founded as the Cross-Language Evaluation Forum and running in conjunction with the European Conference on Digital Libraries (ECDL/TPDL), CLEF became a standalone event in 2010 combining a peer-reviewed conference with a multi-track evaluation forum. The combination of the scientific program and the track-based evaluations at the CLEF conference creates a unique platform to explore information access from different perspectives, in any modality and language.

The CLEF conference has a clear focus on experimental information retrieval (IR) as seen in evaluation forums (CLEF Labs, TREC, NTCIR, FIRE, MediaEval, RomIP, TAC, etc.) with special attention to the challenges of multi-modality, multilinguality, and interactive search ranging from unstructured, to semi-structured and structured data. CLEF invites submissions on significant new insights demonstrated by the use of innovative IR evaluation tasks or in the analysis of IR test collections and evaluation measures, as well as on concrete proposals to push the boundaries of the Cranfield/TREC/CLEF paradigm.

CLEF 2019¹ was organized and hosted by the Università della Svizzera italiana in Lugano, Switzerland, during September 9–12, 2019. The conference format consisted of keynotes, contributed papers, lab sessions, and poster sessions, including reports from other benchmarking initiatives from around the world.

CLEF 2019 marks a special edition as it is the 20th anniversary of CLEF, since its establishment in 2000. We celebrated this event by organizing a session devoted to the past and, especially, the future of CLEF. We also prepared a book² focusing on the lessons learnt in the 20 years of CLEF, and its impact over time.

CLEF 2019 introduced several novelties. First, we setup a mentorship program to support the preparation of lab proposals for newcomers to CLEF. The CLEF newcomers mentoring program offered help, guidance, and feedback on the writing of draft lab proposals by assigning a mentor to proponents, who helped them in preparing and maturing the lab proposal for submission. If the lab proposal fell into the scope of an already existing CLEF lab, the mentor helped proponents to get in touch with the lab organizers and team up forces.

Second, CLEF 2019 hosted an Industry Day for the first time, jointly organized with the Swiss Alliance for Data-Intensive Services. The goal was to further open CLEF to a wider, industrial community through demo sessions, panels, and special keynotes

¹ <http://clef2019.clef-initiative.eu/>.

² Ferro, N., Peters, C. (eds.): *Information Retrieval Evaluation in a Changing World – Lessons Learned from 20 Years of CLEF*, The Information Retrieval Series, vol. 41. Springer International Publishing, Germany (2019).

where the best and most pertinent work of CLEF participants would be made publicly visible.

Lastly, for the first time, the European Conference for Information Retrieval (ECIR) and CLEF joined forces: ECIR 2019 hosted a special session dedicated to CLEF Labs where lab organizers present the major outcomes of their Labs and their plans for ongoing activities, followed by a poster session to favor discussion during the conference. This was reflected in the ECIR 2019 proceedings, where CLEF Lab activities and results were reported as short papers. The goal was not only to engage the ECIR community in CLEF activities but also to disseminate the research results achieved during CLEF evaluation cycles as submission of papers to ECIR.

The following scholars were invited to give a keynote talks at CLEF 2019: W. Bruce Croft (University of Massachusetts at Amherst, USA) delivered a talk entitled “The Relevance of Answers,” which focused on information retrieval tasks that involve retrieving answers rather than documents in response to users’ questions with the aim of identifying some of the key aspects of answers that should be studied to support the ongoing development of more effective search systems. Yair Neuman (Ben Gurion University of the Negev, Israel) gave a speech on “Automatic Analysis of Personality Dimensions through Digital Signatures: Vision, Achievements and Challenges,” presenting the vision of computational personality analysis and its relevance for current challenges in various fields, including a critical examination of some ventures, such as those developed by IBM Personality Insights and the late Cambridge Analytica, and finally pointing to the challenges facing those who are interested in advancing the field.

CLEF 2019 received a total of 30 submissions, of which a total of 15 papers (7 long, 8 short) were accepted. Each submission was reviewed by three Program Committee (PC) members, and the program chairs oversaw the reviewing and follow-up discussions. In total, 13 countries were represented in the accepted papers. This year, many contributions tackled the social networks with the detection of stances or early identification of depression signs on Twitter in a cross-lingual context. Web data is also analyzed in an information diffusion perspective as to discover the main factors explaining a higher probability of being retweeted. More directly related to information retrieval, one study investigates the challenge of tuning parameters for different collections, and another analyzes how kids would use a vocal assistant for performing a search task.

Like in previous editions since 2015, CLEF 2019 continued inviting CLEF lab organizers to nominate a “best of the labs” paper that was reviewed as a full paper submission to the CLEF 2019 conference according to the same review criteria and PC. Seven full papers were accepted for this “best of the labs” section.

The conference integrated a series of workshops presenting the results of lab-based comparative evaluations. CLEF 2019 was the 10th year of the CLEF Conference and the 20th year of the CLEF initiative as a forum for IR Evaluation. The labs were selected in peer review based on their innovation potential and the quality of the resources created. The labs represented scientific challenges based on new data sets and

real world problems in multimodal and multilingual information access. These data sets provide unique opportunities for scientists to explore collections, to develop solutions for these problems, to receive feedback on the performance of their solutions, and to discuss the issues with peers at the workshops.

In addition to these workshops, the nine benchmarking labs reported results of their year-long activities in overview talks and lab sessions. Overview papers describing each of these labs are provided in this volume. The full details for each lab are contained in a separate publication, the Working Notes, which are available online³.

The nine labs running as part of CLEF 2019 were as follows:

CLEF/NTCIR/TREC Reproducibility – CENTRE@CLEF⁴ aims to run a joint CLEF/NTCIR/TREC task on challenging participants: (1) to re-produce best results of best/most interesting systems in previous editions of CLEF/NTCIR/TREC by using standard open source IR systems; (2) to contribute back to the community the additional components and resources developed to reproduce the results in order to improve existing open source systems.

Identification and Verification of Political Claims – CheckThat!⁵ aims to foster the development of technology capable of both spotting and verifying check-worthy claims in political debates in English and Arabic.

CLEF eHealth⁶ aims to support the development of techniques to aid laypeople, clinicians, and policy-makers in easily retrieving and making sense of medical content to support their decision making. The goals of the lab are to develop processing methods and resources in a multilingual setting to enrich difficult-to-understand eHealth texts, and provide valuable documentation.

Early Risk Prediction on the Internet – eRisk⁷ explores challenges of evaluation methodology, effectiveness metrics, and other processes related to early risk detection. Early detection technologies can be employed in different areas, particularly those related to health and safety. For instance, early alerts could be sent when a predator starts interacting with a child for sexual purposes, or when a potential offender starts publishing antisocial threats on a blog, forum or social network. The main goal is to pioneer a new interdisciplinary research area that would be potentially applicable to a wide variety of situations and to many different personal profiles.

Multimedia Retrieval – ImageCLEF⁸ provides an evaluation forum for visual media analysis, indexing, classification/learning, and retrieval in medical, nature, security and lifelogging applications with a focus on multimodal data, so data from a variety of sources and media.

Biodiversity Identification and Prediction – LifeCLEF⁹ aims at boosting research on the identification and prediction of living organisms in order to solve the taxonomic

³ <http://ceur-ws.org/Vol-2380/>.

⁴ <http://www.centre-eval.org/clef2019/>.

⁵ <https://sites.google.com/view/clef2019-checkthat/>.

⁶ <http://clef-ehealth.org/>.

⁷ <http://erisk.irlab.org/>.

⁸ <https://www.imageclef.org/2019>.

⁹ <http://www.lifeclef.org/>.

gap and improve our knowledge of biodiversity. Through its biodiversity informatics related challenges, LifeCLEF is intended to push the boundaries of the state-of-the-art in several research directions at the frontier of multimedia information retrieval, machine learning, and knowledge engineering.

Digital Text Forensics and Stylometry – PAN¹⁰ is a networking initiative for the digital text forensics, where researchers and practitioners study technologies that analyze texts with regard to originality, authorship, and trust-worthiness. PAN provides evaluation resources consisting of large-scale corpora, performance measures, and web services that allow for meaningful evaluations. The main goal is to provide for sustainable and reproducible evaluations, to get a clear view of the capabilities of state-of-the-art-algorithms.

Personalised Information Retrieval – PIR-CLEF¹¹ provides a frame-work for the evaluation of Personalised Information Retrieval (PIR). Current ap-proaches to the evaluation of PIR are user-centric, mostly based on user studies, i.e., they rely on experiments that involve real users in a supervised environment. PIR-CLEF aims to develop and demonstrate a methodology for the evaluation of personalised search that enables repeatable experiments. The main aim is to enable research groups working on PIR to both experiment with and provide feedback on the proposed PIR evaluation methodology.

Extracting Protests from News – ProtestNews¹² aims to test and improve state-of-the-art generalizable machine learning and natural language processing methods for text classification and information extraction on English news from multiple countries such as India and China for creating comparative databases of contentious politics events (riots, social movements), i.e. the repertoire of contention that can enable large scale comparative social and political science studies.

The picturesque lakeside city of Lugano is famous for its beautiful quasi-Mediterranean climate and is a popular destination for its lovely scenery and its laid back lifestyle. The conference dinner, which took place on the second evening, enabled the participants to enjoy the scenery from Monte San Salvatore, on the lake shore just opposite to Lugano, dining and drinking in good company. The first evening was devoted to welcoming CLEF participants to the conference, with a reception at the Università della Svizzera Italiana (USI), which hosted CLEF. The third evening, on the other hand, saw academic and industry participants happily getting to know each other over an aperitif at the Villa Ciani, right in the center of Lugano, in the lovely Parco Ciani.

The success of CLEF 2019 would not have been possible without the huge effort of several people and organizations, including the CLEF Association¹³, the Program Committee, the Lab Organizing Committee, the local Organization Committee in

¹⁰ <http://pan.webis.de/>.

¹¹ <http://www.ir.disco.unimib.it/pir-clef2019/>.

¹² <https://emw.ku.edu.tr/clef-protestnews-2019/>.

¹³ <http://www.clef-initiative.eu/association>.

Lugano, the reviewers, and the many students and volunteers who contributed. Finally, we thank ACM SIGIR (who provided funding for students travel) and Innosuisse (who provided general funding support) for the generous support.

July 2019

Fabio Crestani
Martin Braschler
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CLEF 2019, Conference and Labs of the Evaluation Forum – Experimental IR meets Multilinguality, Multimodality, and Interaction, was hosted by the University of Lugano, Switzerland.

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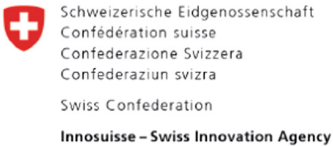
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