

Report on the 2nd Joint Conference of the Information Retrieval Communities in Europe (CIRCLE 2022)

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Abstract

The Joint Conference of the Information Retrieval Communities in Europe (CIRCLE 2020) is the second joint conference of the French, Italian, and Spanish information retrieval communities. The three days of conference gathered interesting studies and research work on a wide range of topics on information retrieval, such as topic and document modeling, web search, information retrieval in e-government, social media, recommender systems, information retrieval evaluation, indexing and annotation, user profiling and interaction, frameworks and systems, and semantic extraction.

It was hosted by Université de Toulouse, France in a holiday resort at Samatan.

Date: 4–7 July, 2022.

Website: <https://www.irit.fr/CIRCLE/>.

1 Introduction

The Joint Conference of the Information Retrieval Communities in Europe (CIRCLE 2022) is the second joint conference of the French, Italian, and Spanish information retrieval communities.

The second edition of CIRCLE took place on July 2022 at Samatan, Gers, south of France (50 minutes from Toulouse). CIRCLE arose from a twofold wish to gather three national Information Retrieval (IR) conferences and to offer young researchers the opportunity to meet and discuss with senior researchers. CIRCLE is supported by the ARIA French conference (CORIA, Conférence en Recherche d’Information et Applications), the Spanish Conference on Information Retrieval (CERI, Congreso Español de Recuperación de Información), the Italian Information Retrieval Workshop, and the Swiss IR community. The main objective of CIRCLE is to propose a unique

place for stimulating and disseminating research in IR, where senior/industrial and early stage researchers (including MSc and PhD students) can network and discuss their research results in a friendly environment.

2 Conference Topics

CIRCLE 2022 includes both theoretical and experimental papers on core IR and papers on connections between IR and close disciplines including but not limited to natural language understanding and information extraction. Relevant topics include, but are not restricted to:

Search and ranking: Research on core IR algorithmic topics, including IR at scale, covering topics such as:

- Queries and query analysis.
- Web search, including link analysis, sponsored search, search advertising, adversarial search and spam, and vertical search.
- Retrieval models and ranking, including diversity and aggregated search.
- Efficiency and scalability.
- Theoretical models and foundations of information retrieval and access.

Content analysis, recommendation and classification: Research focusing on recommender systems, rich content representations and content analysis, covering topics such as:

- Filtering and recommender systems.
- Document representation.
- Content analysis and information extraction, including summarization, text representation, readability, sentiment analysis, and opinion mining.
- Cross- and multilingual search.
- Clustering, classification, and topic models.
- IR and natural language processing.

Domain-specific applications: Research focusing on domain-specific IR challenges, covering topics such as:

- Social search.
- Search in structured data including email search and entity search.
- Multimedia search.
- Education.
- Legal.
- Health, including genomics and bioinformatics.
- IR and digital libraries.
- IR and databases.
- Other domains such as enterprise, news search, app search, archival search.

Artificial intelligence, semantics and dialog: Research bridging AI and IR, especially toward deep semantics and dialog with intelligent agents, covering topics such as:

- Question answering.
- Conversational systems and retrieval, including spoken language interfaces, dialog management systems, and intelligent chat systems.
- Semantics and knowledge graphs.
- Deep learning for IR, embeddings, and agents.

Human factors and interfaces: Research into user-centric aspects of IR, including user interfaces, behavior modeling, privacy, and interactive systems, covering topics such as:

- Mining and modeling search activity, including user and task models, click models, log analysis, behavioral analysis, and attention modeling.
- Interactive and personalized search.
- Collaborative search, social tagging and crowdsourcing.
- Information privacy and security.

Evaluation: Research that focuses on the measurement and evaluation of IR systems, covering topics such as:

- User-centered evaluation methods, including measures of user experience and performance, user engagement and search task design.
- Test collections and evaluation metrics, including the development of new test collections.
- Eye-tracking and physiological approaches, such as fMRI.
- Evaluation of novel information access tasks and systems such as multi-turn information access.
- Statistical methods and reproducibility issues in information retrieval evaluation.

IR architectures: Research dealing with IR system architectures and scalability

- String processing for IR.
- IR system scalability.
- Efficient text representations, indexing and ranking.

Future directions: Research with theoretical or empirical contributions on new technical or social aspects of IR, especially in more speculative directions or with emerging technologies, covering topics such as:

- Novel approaches to IR.
- Ethics, economics, and politics.
- Applications of search to social good.
- IR with new devices, including wearable computing, neuroinformatics, sensors, Internet-of-Things, vehicles.

3 Submissions

For the CIRCLE common track, submissions were requested to be in English, the social language of the conference. Submissions were peer reviewed by at least two members of the conference program committee in a double blind process. Authors were invited to submit one of the following types of contributions:

- *Long original papers* (from 6 to 9 pages including references) describing mature and original research results.
- *Short original papers* (from 3 to 5 pages including references) which typically discuss exciting new work that is not yet mature enough for a long paper, such as “doctoral papers”. In particular, novel but significant proposals will be considered for acceptance into this category despite not having gone through sufficient experimental validation or lacking strong theoretical foundation.
- *Resource papers* (from 3 to 7 pages including references) describing IR test collections or software tools made available to the IR research community.
- *Demo papers* (from 3 to 7 pages including references) showcasing new technologies and prototypes in the scope of CIRCLE.
- *Extended abstracts* (up to 3 pages including references) containing descriptions of ongoing projects or presenting already published results.

The EasyChair system¹ was used for the paper submission and review processes. The accepted papers ranged from theoretical work and experimental research to system and project descriptions. Each accepted paper was included in the conference proceedings and was orally presented. The proceedings [Tamine et al., 2022] are published online by CEUR Workshop Proceedings² as well as on the conference web site³.

4 Scientific Committee

The PC chairs could not have prepared such a interesting scientific program without the thoughtful and careful comments from all the 68 PC members and 6 additional reviewers.

- **Enrique Amigó**, UNED.
- **Ismail Badache**, Laboratoire d’Informatique et Systèmes, INSPE Aix-Marseille University.
- **Patrice Bellot**, Aix-Marseille Université - LSIS, CNRS.
- **Alejandro Bellogin**, Universidad Autonoma de Madrid.
- **Rafael Berlanga**, Universitat Jaume I.
- **Catherine Berrut**, LIG, Université Joseph Fourier Grenoble I.
- **Paolo Boldi**, University of Milan.
- **Mohand Boughanem**, Université de Toulouse, UPS, IRIT UMR5505 CNRS..
- **Iván Cantador**, Universidad Autónoma de Madrid.
- **Claudio Carpineto**, Fondazione Ugo Bordoni.

¹<https://easychair.org>

²<http://ceur-ws.org/Vol-3178/>

³<https://www.irit.fr/CIRCLE/CIRCCLE2022Proceedings.pdf>

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- **Max Chevalier**, Université de Toulouse, UPS, IRIT, UMR5505 CNRS.
 - **Jean-Pierre Chevallet**, Grenoble Alpes University.
 - **Adrian-Gabriel Chifu**, Aix Marseille Univ, Université de Toulon, CNRS, LIS.
 - **Luis M. de Campos**, University of Granada.
 - **Vincent Claveau**, IRISA - CNRS.
 - **Emanuele Di Buccio**, University of Padua.
 - **Antoine Doucet**, University of La Rochelle.
 - **Juan M. Fernández-Luna**, University of Granada.
 - **Victor Fresno**, UNED, Spain.
 - **Lorraine Goeuriot**, Univ. Grenoble Alpes, CNRS, Grenoble INP, LIG, France.
 - **Gilles Hubert**, Université de Toulouse, UPS, IRIT UMR5505 CNRS.
 - **Giorgio Maria Di Nunzio**, University of Padua.
 - **Nicola Ferro**, University of Padova.
 - **Sebastien Fournier**, LSIS.
 - **David Losada**, University of Santiago de Compostela.
 - **Juan-Antonio Martinez-Comeche**, universidad complutense madrid.
 - **Miguel A. Martinez-Prieto**, University of Valladolid.
 - **Massimo Melucci**, University of Padova.
 - **José Moreno**, Université de Toulouse, UPS, IRIT UMR5505 CNRS.
 - **Philippe Mulhem**, LIG-CNRS.
 - **Javier Noguerras Iso**, Universidad de Zaragoza.
 - **Javier Parapar**, IRLab, Computer Science Dept., University of A Coruña.
 - **Karen Pinel-Sauvagnat**, Université de Toulouse, UPS, IRIT UMR5505 CNRS.
 - **Benjamin Piwowarski**, CNRS / University Pierre et Marie Curie.
 - **Paolo Rosso**, Universitat Politècnica de València.
 - **Eric Sanjuan**, Laboratoire Informatique d'Avignon- Université d'Avignon.
 - **Christophe Servan**, Qwant Research.
 - **Laure Soulier**, Sorbonne Université-ISIR.
 - **Lynda Tamine**, Université de Toulouse, UPS, IRIT UMR5505 CNRS.
 - **Marko Tkalcic**, University of Primorska.
 - **Jesus Tramullas**, Universidad de Zaragoza.
 - **Raquel Trillo-Lado**, Universidad de Zaragoza.
 - **Catherine Roussey**, INRAE.
 - **Julián Urbano**, Delft University of Technology.
 - **Jesús Vilares**, Universidade da Coruña, Centro de Investigación CITIC.
 - **Manuel Vilares Ferro**, University of Vigo.
 - **Haifa Zargayouna**, University Paris 13.

5 Program

In total, 13 long papers, 6 short papers, 2 demo papers and 15 extended abstracts were accepted for publication and presentation, leading to 32 oral communications. These papers were grouped into thematic sessions⁴ as follows:

- **Text classification.** The papers presented related to classification have covered different aspects of the problem, such as multi-view representation [Hammami and Faiz, 2022], the use of deep learning in multi-label classification [Fallah et al., 2022; Duperis et al., 2022], and active learning [Molinari et al., 2022].
- **Legal Domain and Social Media Analysis.** This topic included contributions on hate and depression detection [Couto et al., 2022; Ramiandrisoa, 2022] as well as language models in the legal domain [Prasad et al., 2022].
- **Recommendation and Search.** There have been contributions on representation issues [de Campos et al., 2022; Boudiba and Dkaki, 2022], Knowledge Graphs [Schoenfeld, 2022] and corpus development [Segura-Tinoco et al., 2022].
- **Medical information access.** This topic has focused on the use of medical collections via Augmented Relevance Models with Inter-Collection Co-occurrence Statistics [Mishra et al., 2022] and multi-element protocols [Sáez et al., 2022].
- **Automatic Labelling and Relation Extraction.** This topic was covered by several information extraction tasks such as Keyword Labelling [Gabín et al., 2022], Rhetorical Role Labelling [de Lima et al., 2022] and Event Detection [Forler and Egyed-Zsigmond, 2022].
- **My work in 120 seconds.** Authors of demonstration and extended abstract papers presented their work in short presentations plus posters; a total of 16 presentations were given that way.
- **Projects.** Projects related to CIRCLE topics were presented on the first day of the conference. The following projects were presented: HYBRINFOX⁵ by Benjamin Icard, TheoScit⁶ by Marc Bertin PREVISION⁷ by Md Zia Ullah, InnEO Space PhD⁸ by Josiane Mothe, TextoKids by Delphine Battistelli, NewsEye⁹ by Antoine Doucet, La TactiNET¹⁰ by Fabrice Maurel, PRAETORIAN¹¹ by Lazaros Papadopoulos. Some of them have an associated video published on the CIRCLE 2022 YouTube channel¹².

A tutorial on how to write a scientific paper was organized on the last day for students.

⁴<https://www.irit.fr/CIRCLE/program/>

⁵<https://cognition.ens.fr/fr/news/appele-projets-astrid-selection-du-projet-hybrinfox-sur-le-traitement-des-fake-news-et-du-vague>

⁶<https://anr.fr/Projet-ANR-20-CE38-0003>

⁷<http://www.prevision-h2020.eu/>

⁸<https://inneospace.eu/>

⁹<https://www.newseye.eu/>

¹⁰<https://www.youtube.com/watch?v=V06WZw1Gpnk&list=PLXdZ8SPz-fi0VtPyNUyS2Wc6yprxuSvEF&index=3>

¹¹<https://praetorian-h2020.eu/>

¹²<https://www.youtube.com/playlist?list=PLXdZ8SPz-fi0VtPyNUyS2Wc6yprxuSvEF>

In addition, two invited speakers opened the two days of the conference:

- *Géraldine Damnati, Orange Innovation, Lannion, France.* Her talk was entitled “From opinion mining to document search: an overview of applicative use-cases along with practical implementation issues and open research questions”. She presented several applicative use-cases developed at Orange Innovation to feed operational services towards customers and employees. She discussed the current bottlenecks for the deployment of state-of-the art models in operational services. She presented how tasks that are studied in research can yield new opportunities and, conversely, how feedbacks from operational projects can yield new research directions.
- *Evangelos Kanoulas, University of Amsterdam, The Netherlands.* His talk was entitled “Information Retrieval Is Going Conversational”. Evangelos discussed how conversing with the users has risen as a natural means to face complexity in search and recommendation. He also reviewed some of the recent progress in conversational information retrieval and focused on open issues such as evaluation and new abilities a search engine has to be armed with.

6 Local Organization

Josiane Mothe, CIRCLE general chair, warmly thanks the other local organizers without whom the conference could not have happened:

- Max Chevalier, Université de Toulouse, UT3
- Alexandre Clausse, Université de Toulouse, UT3
- Fabienne Denuc, Université de Toulouse, UT2J
- Irène Figuerolas, Université de Toulouse, UT2J
- José Moreno, Université de Toulouse, UT3
- Nathalie Neptune, Université de Toulouse, UT2J
- Ludovic Tanguy, Université de Toulouse, UT2J
- Md Zia Ullah, Université de Toulouse, UT3

The conference was co-organised by the Université de Toulouse (UT2J, Toulouse, France) and Universidad Nacional de Educación a Distancia (UNED, Madrid, Spain). The conference was hosted by Université de Toulouse Jean-Jaurès and took place in the country side nearby Toulouse (Samatan, Gers) in a holiday resort. This choice was driven by the willingness of providing a friendly environment where young researchers and students could meet and discuss without any barriers with senior researchers. The COVID pandemic and remote attendance are not fertilizers for networking, specifically for early career researchers, and CIRCLE had the aim to contribute to integrating young and early career researchers into the information retrieval community.

7 Sponsorship and Student Grants

CIRCLE had many sponsors that the organizers would like to thank warmly. At the Diamond level, UNED, Madrid helped CIRCLE specially for hiring conference rooms, coffee break, social events, wifi connexion and travels and accommodation costs for UNED co-organizers. At the Platinum

ACM SIGIR contributed to welcome all the students at a very low rate of 250 €, including the conference attendance, the accommodation, all the meals and social events. Also at a platinum level, the Région Occitanie contributed to travels expenses (2€ to connect the resort centre from Toulouse) as well as social events. At the gold level, Université Jean Jaurès (Toulouse) contributed with the accounting and secretariat as well as for general expenses and the GDR TAL. At the silver level, ARIA (association Association Francophone de Recherche d'Information et Applications), Institut de Recherche en Informatique de Toulouse (UMR 5505 CNRS) and the Université Paul Sabatier (Toulouse) contributed to invited speakers expenses and free registration or low fees for students. Springer offered five books on Information Retrieval and Machine Learning topics that were given as prizes on social activities to students.

8 Conclusion

Attendees, organisers and chairs appreciated the format of the conference, which allocated plenty of time for discussion, especially informal discussion. Face-to-face discussions were also organised with each PhD's student and a mentor. The relatively small size of the conference allowed for a lot of interaction between juniors and seniors, which was one of the aims of CIRCLE. The exchanges were also facilitated by the fact that the conference was held in a holiday centre, everyone staying on site.

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