EMNLP 2023

Proceedings of The Sixth Workshop on Computational Models of Reference, Anaphora and Coreference (CRAC 2023)

CRAC 2023, an EMNLP 2023 Workshop
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Message from the Program Chairs

This is the sixth edition of the Workshop on Computational Models of Reference, Anaphora and Coreference (CRAC). CRAC was first held in New Orleans five years ago in conjunction with NAACL HLT 2018. But the workshop series dates back to its predecessor, the Coreference Resolution Beyond OntoNotes (CORBON) that started in 2016, and has arguably become the primary forum for coreference researchers to present their latest results since the demise of the Discourse Anaphora and Anaphor Resolution Colloquium series in 2011. While CORBON focused on under-investigated coreference phenomena, CRAC has a broader scope, covering all cases of computational modeling of reference, anaphora, and coreference.

CRAC 2023 continued to attract a large number of very high quality papers. Specifically, we received 15 submissions which were rigorously reviewed by three program committee members. Based on their recommendations, we accepted 10 papers. Two papers were withdrawn. This is the first time we are experimenting with the presentation of a *non-archived* work in progress. The idea is to allow authors to submit their work in progress for review. If it gets accepted, they can present the work at the workshop. However, it won't be included in the workshop proceedings. Thus, they can still submit a more complete version as original work to another venue. Overall, we were pleased with the large number of submissions as well as the quality of the accepted papers.

This is the second year of the CRAC shared task on *Multilingual Coreference Resolution*. This allows researchers who did not participate in the workshop to disseminate their work to a smaller and more focused audience which should promote interesting discussions.

We are grateful to the following people, without whom we could not have assembled an interesting program for the workshop. First, we are indebted to our program committee members. This year the reviewing load was on an average of three papers per reviewer. All of them did the incredible job of completing their reviews in a short reviewing period. This year we have two invited talks. We thank Bernd Bohnet and Milan Straka for accepting our invitation to be this year's invited speakers. We continue the tradition of having a panel on the Universal Anaphora (UA) effort–a unified, language-independent markup scheme that reflects common cross-linguistic understanding of reference-related phenomena. Motivated by Universal Dependencies, UA aims to facilitate referential analysis of the similarities and idiosyncrasies among typologically different languages, support comparative evaluation of anaphora resolution systems and enable comparative linguistic studies. Finally, we would like to thank the workshop participants for joining us in this event.

We hope you will enjoy it as much as we do!

— Sameer Pradhan, Maciej Ogrodniczuk, Anna Nedoluzhko,
Massimo Poesio, and Vincent Ng

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Invited Talk

Multilingual Coreference Resolution with Innovative seq2seq Models

Bernd Bohnet, Google, USA

Abstract

In this talk, we explore advancements in coreference resolution systems, focusing on our novel approach that leverages a text-to-text (seq2seq) paradigm of modern LLMs. We utilize multilingual T5 (mT5) as the foundational language model. Traditional coreference systems primarily employ search algorithms across possible spans. In contrast, our method jointly predicts mentions and links, achieving superior accuracy on the CoNLL-2012 datasets. Notably, our system recorded an 83.3 F1-score for English, surpassing previous research. Further evaluations on multilingual datasets, particularly Arabic and Chinese, yielded improvements over prior works, showcasing the multilingual transfer abilities of our model across many languages. Additionally, our experiments with the SemEval-2010 datasets in various settings—including zero-shot and low resource transfer—reveal significant performance improvements for other languages. We will discuss the capabilities of LLMs to provide a more streamlined, effective, and unified approach to coreference resolution.

Speaker Bio

Bernd Bohnet is a researcher in Natural Language Processing (NLP). He earned his Ph.D. with a specialization in text generation. Subsequently, he served as an tenured Assistant Professor at the University of Birmingham. For the past nine years, Dr. Bohnet carried out research with Google and Google DeepMind. His expertise encompasses a broad range of topics in natural language understanding, including tagging, parsing, coreference resolution, and reading comprehension. In recent years, he has turned his attention to Large Language Models (LLMs), focusing on their capabilities in factual accuracy, question answering, and the integration techniques into LLMs (tool use).

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Bernd Bohnet

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moderated by Sameer Pradhan

Thursday, December 7, 2023

CRAC 2023 Shared Task on Multilingual Coreference Resolution

Invited talk

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Milan Straka

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