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 Two papers were withdrawn.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
Organizers

Organizing Committee:
    Maciej Ogrodniczuk, Institute of Computer Science, Polish Academy of Sciences, Poland
    Vincent Ng, University of Texas at Dallas, USA
    Sameer Pradhan, University of Pennsylvania and cemantix.org, USA
    Massimo Poesio, Queen Mary University of London, UK
    Anna Nedoluzhko, Charles University in Prague, Czechia

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    Ian Porada, Mila – Quebec Artificial Intelligence Institute, Canada
    Yaqin Yang, Brandeis University, USA
    Yilun Zhu, Georgetown University, USA
    Heike Zinsmeister, University of Hamburg, Germany
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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Workshop Program

Wednesday, December 6, 2023

Opening Remarks

09:00–09:15 Opening and Welcome
Vincent Ng, Maciej Ogrodniczuk and Sameer Pradhan

Invited Talk

09:15–10:30 Multilingual Coreference Resolution with Innovative seq2seq Models
Bernd Bohnet

Short Break

10:30–11:00 Coffee Break

Paper Session I

11:00–11:10 Filling in the Gaps: Efficient Event Coreference Resolution using Graph Autoencoder Networks
Loïc De Langhe, Orphee De Clercq and Veronique Hoste

11:10–11:20 CAW-coref: Conjunction-Aware Word-level Coreference Resolution
Karel D’Oosterlinck, Semere Kiros Bitew, Brandon Papineau, Christopher Potts, Thomas Demeester and Chris Develder

Hadi Wazni and Mehrnoosh Sadrzadeh

11:40–12:00 Scalar Anaphora: Annotating Degrees of Coreference in Text
Bingyang Ye, Jingxuan Tu and James Pustejovsky

12:00–12:20 Investigating Failures to Generalize for Coreference Resolution Models
Ian Porada, Alexandra Olteanu, Kaheer Suleman, Adam Trischler and Jackie Chi Kit Cheung
Wednesday, December 6, 2023 (continued)

12:20–12:30 Better Handling Coreference Resolution in Aspect Level Sentiment Classification by Fine-Tuning Language Models
Dhruv Mullick, Bilal Ghanem and Alona Fyshe

12:30–12:40 The pragmatics of characters’ mental perspectives in pronominal reference resolution
Tiana Simovic and Craig Chambers

Long Break

12:40–14:00 Lunch Break

Paper Session II

14:00–14:10 MARRS: Multimodal Reference Resolution System
Halim Cagri Ates, Shruti Bhargava, Site Li, Jiarui Lu, Siddhardha Maddula, Joel Ruben Antony Moniz, Anil Kumar Nalamalapu, Roman Hoang Nguyen, Melis Ozyildirim, Alkesh Patel, Dhivya Piraviperumal, Vincent Renkens, Ankit Samal, Thy Tran, Bo-Hsiang Tseng, Hong Yu, Yuan Zhang and Shirley Zou

14:10–14:30 Towards Harmful Erotic Content Detection through Coreference-Driven Contextual Analysis
Inez Okulska and Emilia Wisnios

14:30–14:40 Integrated Annotation of Event Structure, Object States, and Entity Coreference
Kyeongmin Rim and James Pustejovsky

Findings Paper Session

Kyeongmin Rim, Jingxuan Tu, Bingyang Ye, Marc Verhagen, Eben Holderness and James Pustejovsky

14:50–15:00 ezCoref: Towards Unifying Annotation Guidelines for Coreference Resolution
Ankita Gupta, Marzena Karpinska, Wenlong Zhao, Kalpesh Krishna, Jack Merullo, Luke Yeh, Mohit Iyyer and Brendan O’Connor

15:00–15:10 Longtonotes: OntoNotes with Longer Coreference Chains
Kumar Shridhar, Nicholas Monath, Raghuveer Thirukovalluru, Alessandro Stolfo, Manzil Zaheer, Andrew McCallum and Mrinmaya Sachan
Wednesday, December 6, 2023 (continued)

15:10–15:20 A Memory Model for Question Answering from Streaming Data Supported by Rehearsal and Anticipation of Coreference Information
Vladimir Araujo, Alvaro Soto and Marie-Francine Moens

15:20–15:30 Investigating Multilingual Coreference Resolution by Universal Annotations
Haixia Chai and Michael Strube

Short Break

15:30–16:00 Coffee break

Panel on Universal Anaphora

16:00–17:00 Panel discussion
moderated by Sameer Pradhan

Thursday, December 7, 2023

CRAC 2023 Shared Task on Multilingual Coreference Resolution

Invited talk

09:00–09:30 Recent Computational Approaches to Coreference Resolution
Milan Straka

Overview Paper Talk

09:30–10:30 Findings of the Second Shared Task on Multilingual Coreference Resolution
Zdeněk Žabokrtský, Miloslav Konopík, Anna Nedoluzhko, Michal Novák, Maciej Ogrodniczuk, Martin Popel, Ondřej Pražák, Jakub Sido, Daniel Zeman and Yilun Zhu
Thursday, December 7, 2023 (continued)

Short Break

10:30–11:00 Coffee Break

Shared Task System Demonstration Session

11:00–11:20 Multilingual coreference resolution: Adapt and Generate
Natalia Skachkova, Tatiana Anikina and Anna Mokhova

11:20–11:40 Neural End-to-End Coreference Resolution using Morphological Information
Tuğba Pamay Arslan, Kutay Acar and Gülşen Eryiğit

11:40–12:00 ÚFAL CorPipe at CRAC 2023: Larger Context Improves Multilingual Coreference Resolution
Milan Straka

12:00–12:20 McGill at CRAC 2023: Multilingual Generalization of Entity-Ranking Coreference Resolution Models
Ian Porada and Jackie Chi Kit Cheung

Closing Remarks

12:20–12:30 Closing the workshop
Maciej Ogrodniczuk, Sameer Pradhan and Vincent Ng