

ArgMining 2024

The 11th Workshop on Argument Mining

Proceedings of the Workshop

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317 Sidney Baker St. S
Suite 400 - 134
Kerrville, TX 78028
USA
Tel: +1-855-225-1962
acl@aclweb.org

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Introduction

Argument Mining (“argumentation mining”) is an emerging research area within computational linguistics. It initially focused on automatically identifying and classifying argument elements across various text genres. In the recent years, the field has expanded to explore argument quality and synthesis on multiple levels. This growth has led to the development of practical applications such as argument-focused search and debating technologies, exemplified by IBM Project Debater. The increasing interest in computational argumentation has resulted in the organization of several tutorials at major NLP conferences, providing a wealth of knowledge and insights to the community.

While basic tasks such as argument element segmentation and classification are maturing, many current and emerging tasks in diverse genres and topics still need to be solved amidst global polarization and the emergence of large language models.

The ArgMining community is constantly growing, as demonstrated by the increasing number of submissions on argument mining being accepted at top-level international conferences in NLP and AI. This year’s 11th edition of the workshop allowed the submission of long, short, and demo papers for the main workshop track. Also, ArgMining2024 hosted two shared tasks as part of the workshop: The Perspective Argument Retrieval Shared Task and DialAM-2024: The First Shared Task on Dialogical Argument Mining. We had 28 valid paper submissions; 16 were for the main workshop (13 long, 3 short), and 12 were for the two shared tasks (5 short and 1 overview long paper for each). The submissions came from institutions in 11 countries. For the main workshop, we accepted 6 long papers and 1 short paper (44% acceptance rate compared to 41% for last year’s ArgMining 2023). All accepted papers are included in the proceedings.

The one-day workshop had a hybrid format. Yufang Hou from IBM Research Europe presented a keynote on “Reconstructing Fallacies in Misrepresented Science and Argument Mining in the Wild”. Also, following the steps of the previous ArgMining workshops, we hosted a panel of distinguished researchers: Joonsuk Park (University of Richmond), Iryna Gurevych (Technical University of Darmstadt), Daniel Hershcovich (University of Copenhagen), Lucie Flek (University of Bonn), and Johannes Kiesel (Bauhaus-Universität, Weimar). The panel was moderated by Henning Wachsmuth (Leibniz Universität Hannover) on the topic “The Human in Computational Argumentation”, covering personalization, subjectivity, and perspectivism.

We thank our Program Committee members for their continuous support and helpful input. Also, we thank IBM for sponsoring the Best Paper award and the members of our Best Paper Selection Committee: Benno Stein (Bauhaus-Universität, Weimar), Gabriella Lapesa (GESIS and Heinrich-Heine University Dusseldorf), and Eduardo Blanco (University of Arizona). The awards are announced on the official workshop website: <https://argmining-org.github.io/2024/index.html>.

We would like to also thank everyone who showed interest and submitted a paper this year, all of the authors for their contributions, and all the attendees of the workshop for their support and participation.

Yamen Ajjour, Roy Bar-Haim, Roxanne El Baff, Zhexiong Liu, and Gabriella Skitalinskaya
(*ArgMining 2024 Co-Chairs*)

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Keynote Talk

Reconstructing Fallacies in Misrepresented Science and Argument Mining in the Wild

Yufang Hou

IBM Research Europe - Ireland

Abstract: In this talk, Yufang Hou will discuss their recent work on applying and investigating language model (LM)-based argument mining technologies in real-world scenarios, including fact-checking misinformation that misrepresents scientific publications and tackling traditional argument mining tasks in various out-of-distribution (OOD) scenarios. First, she will discuss their work on reconstructing and grounding fallacies in misrepresented science, in which health-related misinformation claims often falsely cite a credible biomedical publication as evidence. The speaker will present a new argumentation theoretical model for fallacious reasoning, together with a new dataset for real-world misinformation detection that misrepresents biomedical publications. In the second part of the talk, she will discuss their findings on LMs' capabilities for three OOD scenarios (topic shift, domain shift, and language shift) across eleven argument mining tasks.

Bio: Yufang Hou is a research scientist at IBM Research Ireland. She is also a visiting professor and co-supervisor at UKP Lab - TU Darmstadt. Her research interests include referential discourse modelling, argument mining, and scholarly document processing. Yufang received WoC Technical Innovation in Industry Award in 2020. She has served in numerous roles for ACL conferences, recently as a Senior Area Chair for EMNLP 22/23/24, and NAACL 24. She co-organized the 8th workshop on Argument Mining, the first workshop on Argumentation Knowledge Graphs, Key Point Analysis Shared Task 2021, and Dagstuhl Seminar 22432 on "Towards a Unified Model of Scholarly Argumentation".

Panel

The Human in Computational Argumentation

Computational argumentation aims to develop methods for extracting, analyzing, and generating human arguments. This field holds significant promise for applications ranging from automated debate systems to advanced decision-support tools. Central to these advancements are language models, which are trained to simulate human language processing. However, a critical issue with language models is their tendency to inherit and propagate social and stereotypical biases present in their training data. Moreover, these models typically learn from aggregated absolute labels, which do not accurately reflect the nuanced spectrum or distribution of truth in argumentation. Additionally, computational argumentation tasks, such as assessing the persuasiveness of arguments, are inherently subjective and heavily influenced by the author and audience.

This panel session will discuss the role of the human in computational argumentation, exploring ways of creating more representative, fair, and effective computational models of argumentation that better capture the complexities of human discourse. The discussion will focus on two strategies of capturing human context, views, and preferences: perspectivism and personalization. While personalization aims at integrating information about the speaker and target audience (e.g., values and culture) in training or instructing language models, perspectivism aims at ensuring that the views captured by models are representative of the relevant social groups. The panel will look at the consequences, opportunities, and challenges of adapting perspectivism and personalization in computational argumentation.

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Program

Thursday, August 15, 2024

09:00 - 09:10 *Opening Remarks*

09:10 - 10:30 *Session 1*

Multi-Task Learning Improves Performance in Deep Argument Mining Models
Amirhossein Farzam, Shashank Shekhar, Isaac D. Mehlhaff and Marco Morucci

Computational Modelling of Undercuts in Real-world Arguments
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ARIES: A General Benchmark for Argument Relation Identification
Debelá Gemechu, Ramon Ruiz-Dolz and Chris Reed

10:30 - 11:00 *Coffee Break*

11:00 - 12:30 *Panel Session*

12:30 - 14:00 *Lunch Break*

14:00 - 14:30 *The Perspective Argument Retrieval Shared Task*

14:30 - 15:00 *DialAM-2024: The First Shared Task on Dialogical Argument Mining*

15:00 - 15:30 *Session 2*

MAMKit: A Comprehensive Multimodal Argument Mining Toolkit
Eleonora Mancini, Federico Ruggeri, Stefano Colamonaco, Andrea Zecca, Samuele Marro and Paolo Torroni

Thursday, August 15, 2024 (continued)

DeepCT-enhanced Lexical Argument Retrieval

Alexander Bondarenko, Maik Fröbe, Danik Hollatz, Jan Heinrich Merker and Matthias Hagen

15:30 - 16:00 *Coffee Break*

16:00 - 17:00 *Keynote Speech*

17:00 - 17:40 *Poster Session (Shared Task Papers + Main Workshop Papers)*

17:40 - 17:55 *Closing Remarks + Best Paper Award*