Argumentation in Social Media

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INTRODUCTION TO THE ACM TOIT SPECIAL SECTION ON ARGUMENTATION IN SOCIAL MEDIA

Argumentation is a multidisciplinary domain at the intersection of philosophy, communication studies, logic, artificial intelligence, computational linguistics, social sciences, political sciences, and law. Its study opens the door to a wide range of challenging, potential applications in several domains. One of the contexts in which argumentation assumes immediate relevance is the Web, since social media, social networks, and distributed platforms are some of the favorite sources and outlets for opinions, advice, and comments of any sort for a large share of the world population. The aim of this Special Section is to gather recent developments in the area of argumentation that is focused on social media.

This Special Section of the *ACM Transactions on Internet Technology* collects a selection of seven articles on argumentation in social media. Each article has undergone at least two rounds of review by at least three experts following the highest standards.

The article “Debating Technology for Dialogical Argument: Sensemaking, Engagement and Analytics” by Mark Snaith, John Lawrence, Barbara Konat, Katarzyna Budzynska, and Chris Reed provides a thorough overview of the emerging research area of debating technologies, which aims to develop instruments to enhance, support, and engage with human debating, and which has been the topic of a recent Dagstuhl seminar. The authors propose the Argument Web as a powerful unifying framework to exploit all the different aspects of this exciting research field.

The induction of argument structures in online debates is the subject of the article “Using Argument Structure to Interpret Online Debate” by John Lawrence, Joon-suk Park, Katarzyna Budzynska, Claire Cardie, Barbara Konat, and Chris Reed. The authors introduce a novel corpus of user comments collected from an e-rulemaking

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platform and propose an automatic approach to construct argument graphs from manually segmented threaded debate discussions.

Social networks are the application domain of two articles in this Special Section. The article “Stance and Sentiment in Tweets” by Saif Mohammad, Parinaz Sobhani, and Svetlana Kiritchenko presents a novel dataset of Twitter data, labeled with both sentiment and stance annotations. In particular, the authors focus on the task of detecting the stance of a tweet with respect to a given target, by exploiting sentiment features. A detailed experimental analysis is conducted, that shows how sentiment features, although useful, are not sufficient for the challenging task of stance detection.

Privacy disputes are instead the focus of the article “An Argumentation Approach for Resolving Privacy Disputes in Online Social Networks” by Nadin Kokciyan, Nefise Yaglikci, and Pinar Yolum. In this work, the authors propose an interesting practical application of assumption-based argumentation, by introducing a framework capable of modeling and solving privacy disputes in domains where the content is typically shared among users, such as online social networks.

In the article “A Universal Model for Discourse-Level Argumentation Analysis,” Henning Wachsmuth and Benno Stein propose to model user-generated text as a flow of global discourse structures. The authors propose different applications of their method in argumentation-related analysis tasks, such as classifying global sentiment in reviews or quality of student essays.

An empirical study of different opinion aggregation principles is presented in the article “Experimental Assessment of Aggregation Principles in Argumentation-enabled Collective Intelligence” by Edmond Awad, Jean-François Bonnefon, Martin Caminada, Thomas Malone, and Iyad Rahwan. The analysis reveals how different factors, typically not captured by formal methods, can play a crucial role in assessing the efficacy of the process of aggregating opinions from the crowd.

Finally, more related to the machine learning and natural language processing aspects of argumentation, the article “Using Argumentation to Improve Classification in Natural Language Problems” by Lucas Carstens and Francesca Toni proposes to exploit an argumentation framework to address classification tasks such as cross-domain sentiment polarity and relation detection within argumentative sentence pairs.

We hope you enjoy the reading.

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Guest Editors