EMNLP 2017

# Proceedings of the
# 4th Workshop on Argument Mining

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# Introduction

The goal of this workshop is to provide a follow-on forum to the last three years' Argumentation Mining workshops at ACL and NAACL, the first research forum devoted to argumentation mining in all domains of discourse.

Argument mining (also, "argumentation mining", referred to as "computational argumentation" in some recent works) is a relatively new challenge in corpus-based discourse analysis that involves automatically identifying argumentative structures within discourse, e.g., the premises, conclusion, and argumentation scheme of each argument, as well as argument-subargument and argument-counterargument relationships between pairs of arguments in the document. To date, researchers have investigated methods for argument mining in areas such as legal documents, on-line debates, product reviews, academic literature, user comments on proposed regulations, newspaper articles and court cases, as well as in dialogical domains. To date there are few corpora with annotations for argumentation mining research although corpora with annotations for argument sub-components have recently become available.

Proposed applications of argumentation mining include improving information retrieval and information extraction as well as end-user visualization and summarization of arguments. Textual sources of interest include not only the formal writing of legal text, scientific writing and parliamentary records, but also a variety of informal genres such as microtext, spoken meeting transcripts, product reviews and user comments. In instructional contexts where argumentation is a pedagogically important tool for conveying and assessing students' command of course material, the written and diagrammed arguments of students (and the mappings between them) are educational data that can be mined for purposes of assessment and instruction. This is especially important given the wide-spread adoption of computer-supported peer review, computerized essay grading, and large-scale online courses and MOOCs.

Success in argument mining will require interdisciplinary approaches informed by natural language processing technology, theories of semantics, pragmatics and discourse, knowledge of discourse of domains such as law and science, artificial intelligence, argumentation theory, and computational models of argumentation. In addition, it will require the creation and annotation of high-quality corpora of argumentation from different types of sources in different domains.

We are looking forward to a full day workshop to exchange ideas and present ongoing research on all of the above - see you all in Copenhagen, Denmark at EMNLP 2017!

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# Conference Program

**Friday, September 8, 2017**

**8:50–9:50 Welcome session**

8:50–9:00 *Welcome*
Workshop Chairs

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Christian Kock, Dept. of Media, Cognition and Communication, University of Copenhagen

**9:50–10:30 Paper session I**

9:50–10:10 *200K+ Crowdsourced Political Arguments for a New Chilean Constitution*
Constanza Fierro, Claudio Fuentes, Jorge Pérez and Mauricio Quezada

10:10–10:30 *Analyzing the Semantic Types of Claims and Premises in an Online Persuasive Forum*
Christopher Hidey, Elena Musi, Alyssa Hwang, Smaranda Muresan and Kathy McKeown

**10:30–11:00 Coffee break**

**11:00–12:30 Paper session II**

11:00–11:20 *Annotation of argument structure in Japanese legal documents*
Hiroaki Yamada, Simone Teufel and Takenobu Tokunaga

11:20–11:40 *Improving Claim Stance Classification with Lexical Knowledge Expansion and Context Utilization*
Roy Bar-Haim, Lilach Edelstein, Charles Jochim and Noam Slonim

11:40–12:00 *Mining Argumentative Structure from Natural Language text using Automatically Generated Premise-Conclusion Topic Models*
John Lawrence and Chris Reed

12:00–12:20 *Building an Argument Search Engine for the Web*
Henning Wachsmuth, Martin Potthast, Khalid Al Khatib, Yamen Ajjour, Jana Puschmann, Jiani Qu, Jonas Dorsch, Viorel Morari, Janek Bevendorff and Benno Stein

**Friday, September 8, 2017 (continued)**

**12:30–14:30 Lunch break**

**14:30–15:30 Poster session**

14:30–15:30 *Argument Relation Classification Using a Joint Inference Model*
Yufang Hou and Charles Jochim

14:30–15:30 *Projection of Argumentative Corpora from Source to Target Languages*
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**16:00–17:00 Paper session III**

16:00–16:20 *Unsupervised Detection of Argumentative Units though Topic Modeling Techniques*
Alfio Ferrara, Stefano Montanelli and Georgios Petasis

16:20–16:40 *Using Complex Argumentative Interactions to Reconstruct the Argumentative Structure of Large-Scale Debates*
John Lawrence and Chris Reed

16:40–17:00 *Unit Segmentation of Argumentative Texts*
Yamen Ajjour, Wei-Fan Chen, Johannes Kiesel, Henning Wachsmuth and Benno Stein

**17:00–17:30 Wrap-up discussion**