

ACL 2014

**Proceedings of the
First Workshop on Argumentation Mining**

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Introduction

Argumentation mining is a relatively new challenge in corpus-based discourse analysis that involves automatically identifying argumentative structures within a document, e.g. the premises, conclusion, and argumentation scheme of each argument, as well as argument-subargument and argument-counterargument relationships between pairs of arguments. Proposed applications of argumentation mining include improving information retrieval and information extraction, as well as providing end-user visualization and summarization of arguments. Sources of interest include not only formal genres, but also a variety of informal genres such as microtext, spoken meeting transcripts, and product reviews. 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 argumentation 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 creation and annotation of high-quality corpora of argumentation from different types of sources in different domains.

The goal of this workshop is to provide the first research forum devoted to argumentation mining in all domains of discourse. Suggested topics include but are not limited to:

- Automatic identification of argument elements (e.g., premises and conclusion; data, claim and warrant), argumentation schemes, relationships between arguments in a document, and relationships to discourse goals (e.g. stages of a “critical discussion”) and/or rhetorical strategies;
- Creation/evaluation of argument annotation schemes, relationship of argument annotation to linguistic and discourse structure annotation schemes, (semi)automatic argument annotation methods and tools, and creation/annotation of high-quality shared argumentation corpora;
- Processing strategies integrating NLP methods and AI models developed for argumentation such as argumentation frameworks; and
- Applications of argument/argumentation mining to, e.g., mining requirements and technical documents, analysis of arguments in dialogue (meetings, etc.), opinion analysis and mining consumer reviews, evaluation of students' written arguments and argument diagrams, and information access (retrieval, extraction, summarization, and visualization) in scientific and legal documents.

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Conference Program

Thursday June 26, 2014

Session 1: Papers

- 8:30–9:00 *Annotating Patterns of Reasoning about Medical Theories of Causation in Vaccine Cases: Toward a Type System for Arguments*
Vern Walker, Karina Vazirova and Cass Sanford
- 9:00–9:30 *Towards Creation of a Corpus for Argumentation Mining the Biomedical Genetics Research Literature*
Nancy Green
- 9:30–10:00 *An automated method to build a corpus of rhetorically-classified sentences in biomedical texts*
Hospice Hounbo and Robert Mercer
- 10:00–10:30 *Ontology-Based Argument Mining and Automatic Essay Scoring*
Nathan Ong, Diane Litman and Alexandra Brusilovsky

10:30–11:00 Coffee

Session 2: Papers

- 10:30–11:00 *Identifying Appropriate Support for Propositions in Online User Comments*
Joonsuk Park and Claire Cardie
- 11:00–11:30 *Analyzing Argumentative Discourse Units in Online Interactions*
Debanjan Ghosh, Smaranda Muresan, Nina Wacholder, Mark Aakhus and Matthew Mitsui
- 11:30–12:00 *Back up your Stance: Recognizing Arguments in Online Discussions*
Filip Boltužić and Jan Šnajder
- 12:00–12:30 *Automated argumentation mining to the rescue? Envisioning argumentation and decision-making support for debates in open online collaboration communities*
Jodi Schneider
- 12:30–14:00 Lunch

Thursday June 26, 2014 (continued)

Session 3: Papers

- 14:00–14:20 *A Benchmark Dataset for Automatic Detection of Claims and Evidence in the Context of Controversial Topics*
Ehud Aharoni, Anatoly Polnarov, Tamar Lavee, Daniel Hershcovich, Ran Levy, Ruty Rinott, Dan Gutfreund and Noam Slonim
- 14:20–14:40 *Applying Argumentation Schemes for Essay Scoring*
Yi Song, Michael Heilman, Beata Beigman Klebanov and Paul Deane
- 14:40–15:00 *Mining Arguments From 19th Century Philosophical Texts Using Topic Based Modelling*
John Lawrence, Chris Reed, Colin Allen, Simon McAlister and Andrew Ravenscroft
- 15:00–15:20 *Towards segment-based recognition of argumentation structure in short texts*
Andreas Peldszus
- 15:30–16:00 Coffee

Session 4: Posters

- 16:00–17:00 Poster session

Titles That Announce Argumentative Claims in Biomedical Research Articles
Heather Graves, Roger Graves, Robert Mercer and Mahzereen Akter

Extracting Higher Order Relations From Biomedical Text
Syeed Ibn Faiz and Robert Mercer

Survey in sentiment, polarity and function analysis of citation
Myriam Hernández A. and José M. Gómez

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Thursday June 26, 2014 (continued)

