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**Proceedings of 9th Workshop on Argument Mining**

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## Introduction

Argument mining (also known as “argumentation mining”) is a growing research area within computational linguistics. At its heart, argument mining involves the automatic identification of argumentative structures in free text, such as the conclusions, premises, and inference schemes of arguments, as well as their pro- and con-relations. To date, researchers have investigated argument mining in many genres, such as legal documents, product reviews, news articles, online debates, Wikipedia articles, essays, academic literature, tweets, and dialogues. In addition, argument quality assessment and generation are also important problems. Argument mining gives rise to various practical applications of great importance. In particular, it provides methods that can find and visualize the main pro and con arguments in written text and dialogue and that enable argument search on the web for a topic of interest. In educational contexts, argument mining can be applied to written and diagrammed arguments for instructing and assessing students’ critical thinking. In information retrieval, argument mining is expected to play a salient role in the emerging field of conversational search. Real-world applications include argument analysis in education, finance, law, public policy, and other social sciences, argument web search, opinion analysis in customer reviews, argument analysis in meetings, and scientific writing.

The community around ArgMining is constantly growing. This year’s edition of the workshop had 37 valid submissions (27 in 2017, 32 in 2018, 41 in 2019, 30 in 2020, and 39 in 2021). Out of the 37 submissions, 12 full papers, 3 short papers, and 3 shared task papers were accepted, resulting in an overall acceptance rate of 49%. All accepted papers are included in the proceedings at hand.

Given the duration of the workshop (1 day) and its format (hybrid), we decided to give all the authors the opportunity to present their work orally. Long papers had 15 min for the talk and Q&A and short papers had 12 min for the talk and Q&A. We were delighted to have Prof. Dr. Hans Hoeken from the Department of Languages, Literature, and Communication, Utrecht University as the keynote speaker, on Mining for Persuasive Ingredients: What’s the Right Mix.

The ArgMining 2022 workshop program also included a shared task on Predicting the Validity and Novelty of Arguments, chaired by Philipp Heinisch (University of Bielefeld), Philipp Cimiano (University of Bielefeld), Anette Frank (University of Heidelberg), and Juri Opitz (University of Heidelberg). A panel featured five domain experts from different domains: Laura Alonso Alemany (Universidad Nacional de Córdoba), Chung-Chi Chen (National Institute of Advanced Industrial Science and Technology), Beata Beigman Klebanov (Educational Testing Service), Joonsuk Park (University of Richmond), and Michael Yeomans (Imperial College London). A best paper award and scholarships were sponsored with thanks to NAVER and IBM. Awards are announced on the official workshop webpage: <https://argmining-org.github.io/2022/index.html>.

Gabriella Lapesa, Jodi Schneider, Yohan Jo, Sougata Saha  
(ArgMining 2022 co-chairs)

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# Conference Program

October 17, 2022

**8:50–9:00**     *Opening Remarks*

**9:00–10:20**     *Panel - Laura Alonso Alemany, Chung-Chi Chen, Beata Beigman Klebanov, Joonsuk Park, Michael Yeomans*

**10:30–12:00**   **Paper Session I**

*ImageArg: A Multi-modal Tweet Dataset for Image Persuasiveness Mining*  
Zhexiong Liu, Meiqi Guo, Yue Dai and Diane Litman

*Data Augmentation for Improving the Prediction of Validity and Novelty of Argumentative Conclusions*  
Philipp Heinisch, Moritz Plenz, Juri Opitz, Anette Frank and Philipp Cimiano

*Do Discourse Indicators Reflect the Main Arguments in Scientific Papers?*  
Yingqiang Gao, Nianlong Gu, Jessica Lam and Richard H.R. Hahnloser

*Analyzing Culture-Specific Argument Structures in Learner Essays*  
Wei-Fan Chen, Mei-Hua Chen, Garima Mudgal and Henning Wachsmuth

*Perturbations and Subpopulations for Testing Robustness in Token-Based Argument Unit Recognition*  
Jonathan Kamp, Lisa Beinborn and Antske Fokkens

*A Unified Representation and a Decoupled Deep Learning Architecture for Argumentation Mining of Students' Persuasive Essays*  
Muhammad Tawsif Sazid and Robert E. Mercer

**12:00–13:00**   *Catered Lunch*

October 17, 2022 (continued)

**13:00–14:00 Shared Task Papers**

*Overview of the 2022 Validity and Novelty Prediction Shared Task*

Philipp Heinisch, Anette Frank, Juri Opitz, Moritz Plenz and Philipp Cimiano

*Will It Blend? Mixing Training Paradigms & Prompting for Argument Quality Prediction*

Michiel van der Meer, Myrthe Reuver, Urja Khurana, Lea Krause and Selene Baez Santamaria

*KEViN: A Knowledge Enhanced Validity and Novelty Classifier for Arguments*

Ameer Saadat-Yazdi, Xue Li, Sandrine Chaussou, Vaishak Belle, Björn Ross, Jeff Z. Pan and Nadin Kökciyan

*Argument Novelty and Validity Assessment via Multitask and Transfer Learning*

Milad Alshomary and Maja Stahl

**14:10–14:50 Paper Session II**

*Is Your Perspective Also My Perspective? Enriching Prediction with Subjectivity*

Julia Romberg

*Boundary Detection and Categorization of Argument Aspects via Supervised Learning*

Mattes Ruckdeschel and Gregor Wiedemann

*Predicting the Presence of Reasoning Markers in Argumentative Text*

Jonathan Clayton and Rob Gaizauskas

October 17, 2022 (continued)

**15:00–16:00** **Keynote: Mining for Persuasive Ingredients: What’s the Right Mix? - Hans Hoeken**

**16:15–17:45** **Paper Session III**

*Detecting Arguments in CJEU Decisions on Fiscal State Aid*

Giulia Grundler, Piera Santin, Andrea Galassi, Federico Galli, Francesco Godano, Francesca Lagioia, Elena Palmieri, Federico Ruggeri, Giovanni Sartor and Paolo Torroni

*Multimodal Argument Mining: A Case Study in Political Debates*

Eleonora Mancini, Federico Ruggeri, Andrea Galassi and Paolo Torroni

*A Robustness Evaluation Framework for Argument Mining*

Mehmet Sofi, Matteo Fortier and Oana Cocarascu

*On Selecting Training Corpora for Cross-Domain Claim Detection*

Robin Schaefer, René Knaebel and Manfred Stede

*Entity-based Claim Representation Improves Fact-Checking of Medical Content in Tweets*

Amelie Wührl and Roman Klinger

*QualiAssistant: Extracting Qualia Structures from Texts*

Manuel Biertz, Lorik Dumani, Markus Nilles, Björn Metzler and Ralf Schenkel

**17:45–18:00** ***Closing Remarks + Best Paper Award***

**18:00–20:00** ***Social @Whasoo Brewery***

