End-to-end Argument Structure Prediction From Online Social Conversations

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Public Github Repository: https://github.com/ArgStrPrediction

Researchers

- Siddharth Bhargava, FBK Povo & UDC A Coruña
- Sara Tonelli, FBK Povo
- Patricia Martín Rodilla, UDC A Coruña
- Javier Parapar López, UDC A Coruña

Summary

The software extracts complete and coherent argument structures from online social conversations, identifying span-level argument units and linking them through support or attack relations. It supports multiple modeling approaches—including supervised fine-tuning and in-context prompting—and accommodates both single-step and multi-step task architectures. This enables systematic benchmarking, efficient resource usage, and robust evaluation of computational argument mining models across diverse settings.

Key Features

- **End-to-end pipeline:** Processes raw conversation text and produces structured argument graphs for use in public applications and downstream tasks.
- **Schema-driven design**: Enforces a consistent, pre-defined structure across modeling approaches, ensuring reliability and comparability of outputs.
- **Comprehensive evaluation:** Assesses predicted argument structures for predictive performance, computational efficiency, generalizability, and schema compliance.

What We Offer

- An **open-source framework** supporting large-scale dialogical argumentation across diverse conversational settings.
- A **customizable and modular design** that adapts to different modeling paradigms, task architectures, and argument structure schemas.
- A **flexible evaluation toolkit** configurable for argument unit detection, segmentation, relation identification and type classification.

Collaboration Objectives

- **Foster interdisciplinary collaboration** bringing together argument mining researchers, computational linguists, and social/political scientists.
- **Enable large-scale discourse analysis** of argumentation in conversational data, including social media, live debates, and collaborative discussions.
- **Advance downstream applications:** misinformation detection, stance detection, and opinion mining.

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HYBRIDS Website

www.hybridsproject.eu

Get in Touch

siddharth.bhargava@fbk.eu