



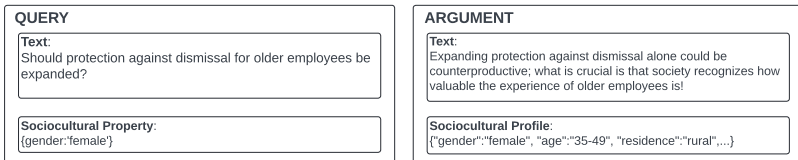
GESIS-DSM at PerspectiveArg2024

A Matter of Style? Socio-Cultural Differences in Argumentationsni

Maximilian M. Maurer, Julia Romberg, Myrthe Reuver,
Negash D. Weldekiros, and Gabriella Lapesa

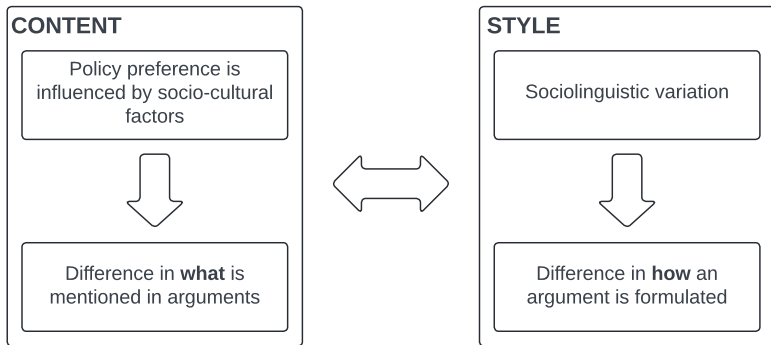
August 15, 2024

Task: Perspectivist Argument Retrieval

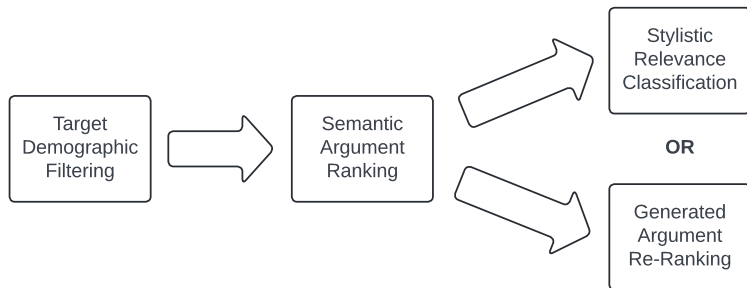


⇒ Given a queried text and socio-cultural property,
find relevant arguments

How do socio-cultural group's arguments differ?

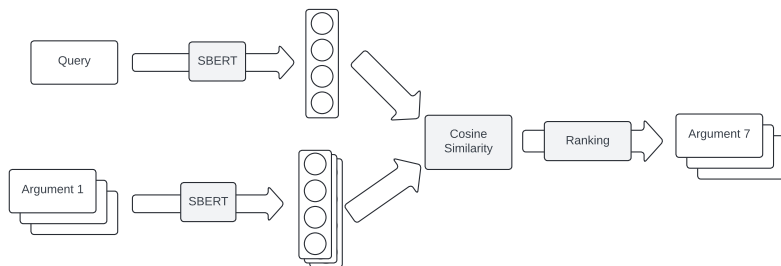


Our Approach



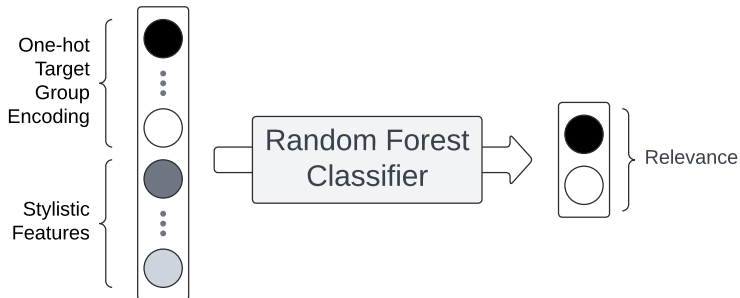
- ▶ Three-step pipeline with two options corresponding to the content/style

Semantic Argument Ranking



- ▶ Assessing topical relevance of arguments using SBERT
- ▶ Works well in non-perspective scenarios!

Stylistic Relevance Classification



- ▶ Stylistic features: Readability, avg. word/sentence lengths, POS-based, entities, etc.
- ▶ Goal: Assess whether a stylistic fingerprint of an argument is *characteristic* for the group

Generated Argument Re-Ranking

Given the question {*query*}, use your knowledge of the Swiss political landscape to provide a pro argument a person whose {*attribute*} is {*group*} would produce.

- ▶ Generating arguments using *sociodemographic prompting* (occiglot-7b-eu5-instruct model)

- ▶ Re-ranking arguments according to their SBERT representation similarity to the generated arguments' representation

Results & Conclusion

Model	Scenario	
	Explicit	Implicit
SBERT	0.252	0.249
Stylistic	0.724	0.271
Generated	0.578	0.220

- ▶ Stylistic approach outperforms content-based approach across evaluation scenarios
- ▶ Implicit perspective argument retrieval is a hard task
- ▶ How and to what degree do different sociocultural groups differ?
 - ▶ Perception and production of arguments?
 - ▶ Different domains, arenas, etc.?

Appendix: Regression Analysis

DV	Adjusted R ²	DV	Adjusted R ²
Characters per word	0.0613	NOUN	0.0285
Words per sentence	0.1422	NUM	0.0155
Type-token ratio	0.0596	PART	0.0077
Long words	0.1557	PRON	0.0355
Complex words	0.1068	PROPN	0.0150
Flesch Reading Ease	0.0880	PUNCT	0.0412
Gunning Fog Index	0.1256	SCONJ	0.0129
ADJ	0.0165	SYM	-
ADP	0.0041	VERB	0.0232
ADV	0.0187	X	0.0022
AUX	0.0157	Named entities	0.0110
CCONJ	0.0104	Present tense	0.0123
DET	0.0121	Imperative	0.0022
INTJ	-	First person	0.0272