

# Same Author or Just Same Topic? Towards Content-Independent Style Representations



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## Why?

Style is relevant for both NLU & NLG

Previous work on style representation learning:

- Authorship Verification (AV) as training task

⚡ **content**  $\leftrightarrow$  **style**

e.g., [Sari et al., Topic or style? Exploring the most useful features for authorship attribution., 2018]

## Training Task

don't suggest an open relationship if you're not ready

Aren't open relationships usually just about fixing something in the relationship?

it's clear that these are wildly different situations

**Label:** ■ Author 1 ■ Author 2  
**Content:** ■ Conversation 1 ■ Conversation 2

## Eval Task

**r u** a fan of them or something?

Are you one of their fans?

Oh **yea** and that young **dr** got bad hair

■ Same Style ■ Paraphrase

## Selected Results

	1. AV	2. Style	3. vs. Content
	AV (AUC)	STEL (ACC)	-Or-Content (ACC)
RoBERTa base	0.53	.80	.05
Conversation	<b>0.69</b>	.71	<b>.42</b>
Domain	0.68	.71	.32
Random	0.58	.71	.24

## IN SHORT

Towards “general-purpose” style representations:

- **contrastive & content-controlled AV task**
- **testing for content-independence**

## Contact

Code: [github.com/nlpsoc/Style-Embeddings](https://github.com/nlpsoc/Style-Embeddings)  
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