Intent-Aware Counterspeech Generation

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Abstract

We explore intent-specific counterspeech generation to tackle hate speech online. Using the `IntentCONAN` dataset—6,831 examples across five intents—we aim to generate targeted, effective, and relevant counterspeech responses.

1 Introduction

Hate speech remains a persistent issue on online platforms, harming communities and spreading hostility. While content removal is common, it often treats the symptoms rather than the cause.

This project focuses on **counterspeech**—civil, reasoned replies to hate. We explore **intent-aware** generation, creating responses that align with one of five specific intents:

- **Informative:** Offers factual corrections.

- **Denouncing:** Condemns the message.

- **Question:** Challenges assumptions.

- **Positive:** Shows empathy or kindness.

- **Humour:** Uses wit to defuse tension.

2 Dataset Description

We use the IntentCONAN dataset, which contains 6,831 counterspeech samples categorized into the five aforementioned intents. Each sample is paired with a corresponding hate speech instance, providing a rich context for intent-specific counterspeech generation.

3 Baseline

As a baseline, we fine-tuned DialoGPT on the `IntentCONAN` dataset to generate intent-conditioned responses.

Hate Speech		Counterspeech Intents					
Targets	Counts	INF	QUE	DEN	HUM	POS	Total
Muslims	968	671	450	255	107	265	1748
Migrants	642	453	241	134	107	165	1100
Women	517	415	225	195	158	158	1151
LGBT+	465	280	195	145	99	132	851
Jews	408	272	184	109	96	112	773
POC	294	226	136	118	71	71	622
Disabled	173	114	45	44	25	61	289
Other	116	85	66	51	41	54	297
Total	3583	2516	1542	1051	704	1018	6831
Train	2508	1761	1079	735	494	712	4781
Dev	716	507	310	212	139	205	1373
Test	359	248	153	104	71	101	677

Figure 1: Counterspeech intent distribution in the `IntentCONAN` dataset.

Metric	Score
ROUGE-1	0.1297
ROUGE-2	0.0030
ROUGE-L	0.1045
METEOR	0.0670
BERTScore (Precision)	0.7914
BERTScore (Recall)	0.8076
BERTScore (F1)	0.7993

Table 1: Evaluation results for the baseline DialoGPT model.

4 Future Work

Next, we plan to enhance our baseline with the **GPS (Generate–Prune–Select)** approach. By generating multiple candidate counterspeeches, pruning weaker ones, and selecting the most intent-aligned reply, we aim to boost both quality and precision.

To further refine the generation process, we'll integrate **intent distribution learning** to better capture the desired intent signals. We'll also explore **multi-task instruction tuning with RLAIF** to increase diversity while keeping the responses non-toxic and relevant.

For evaluation, we'll use automatic metrics—**METEOR**, **BERTScore**, and **ROUGE**—to assess the fluency, relevance, and accuracy of the generated counterspeech.

References

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