



INSIGHT INTO AFFECTIVE RESPONSES ON SOCIAL MEDIA: CAREDB FOR IMPROVED POST RANKING

The paper presents the CARE method for labeling affective responses in social media posts using comment patterns and keyword-affect mapping. They introduce CAREdb, a dataset with 230k annotations, and demonstrate its utility in training BERT-based models for affective response prediction, benefiting post ranking and related tasks

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Introduction

Social media plays a significant role in communication and entertainment, necessitating effective post ranking functions to enhance user experience. Traditional human annotation methods for recognizing affective responses have limitations, prompting the introduction of CAREdb. By leveraging the CARE method and analyzing comments, CAREdb provides a scalable and efficient solution for understanding user engagement. Insights from CAREdb can inform content creation and platform optimization, resulting in enhanced user experience on social media.

Results

The results of evaluating the CARE method for annotating social media posts using CARE patterns and the CARE lexicon are presented. Human evaluation using Amazon Mechanical Turk (AMT) validates the labels predicted by CARE, showing high agreement with annotators. Exploring the use of a state-of-the-art classifier, as an alternative labeling approach reveals lower performance compared to CARE, highlighting the advantages of CARE patterns and the lexicon.

Conclusion

The CARE method offers an effective approach for predicting affective responses in social media posts. By leveraging CARE patterns and the creation of CAREdb, a large annotated dataset, the methodology demonstrates scalability and competitive performance. Future improvements include addressing cases lacking common affect phrases and exploring additional linguistic features. Overall, CARE provides a robust framework for advancing affective computing research and related fields.

Related work

Recent studies have focused on recognizing and analyzing affective responses in social media posts. Emotion recognition approaches using text data leverage machine learning, linguistic features, and emojis to improve accuracy. Challenges include subjective labeling, cultural variations, and ethical considerations, but emotion analysis shows promise in sentiment analysis, mental health screening, and crisis response as natural language processing techniques advance.

Methodology

The CARE method extracts information from comments using patterns and a lexicon to annotate affective responses of posts. Patterns capture common structures indicating emotions, while the lexicon maps comments to specific affects. Iterative expansion improves coverage and accuracy. By combining these elements, CARE provides a formal approach to understand users' emotional and cognitive experiences when engaging with content.

REFERENCES

Dwivedi-Yu and A. Y. Halevy, "That's So Cute!": The CARE Dataset for Affective Response Detection," arXiv preprint.
I. Triantafyllopoulos, G. Paraskevopoulos, and A. Potamianos, "Depression Detection in Social Media Posts Using Affective and Social Norm Features," arXiv preprint arXiv:2302.01785, 2023

RESULTS

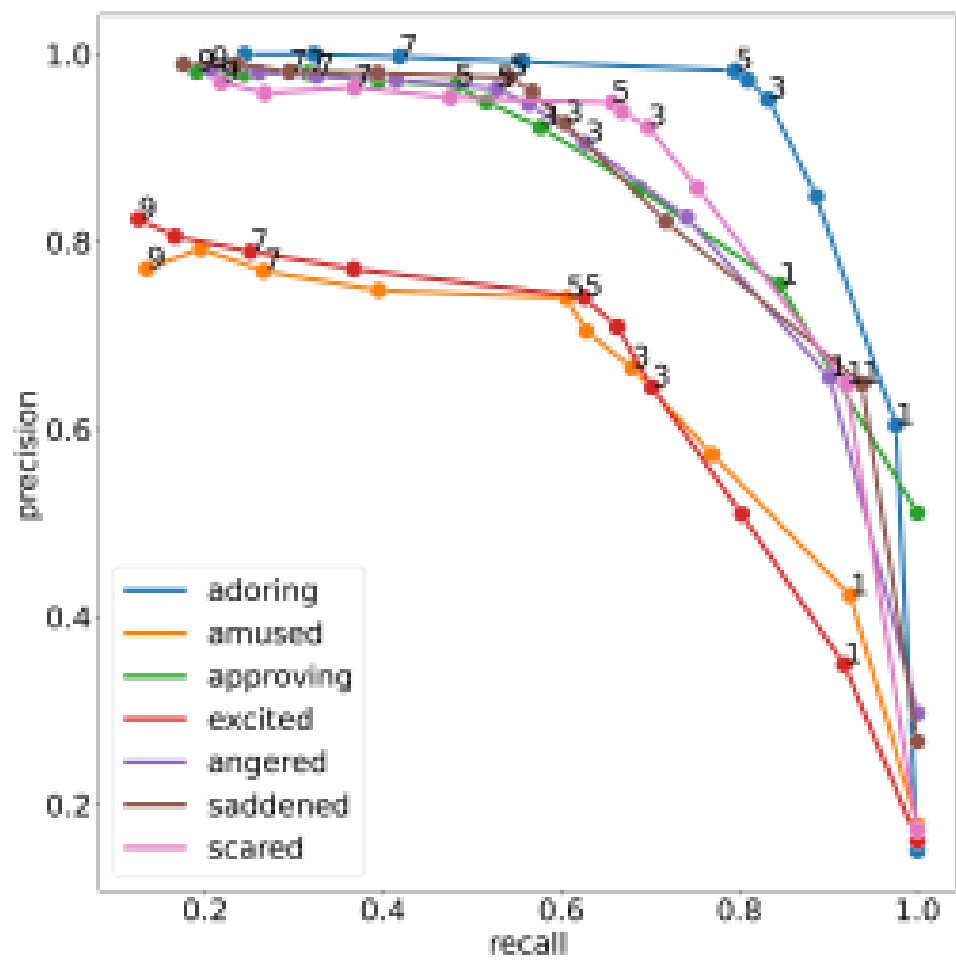
MAPPING COMMENTS TO AFFECTIVE RESPONSES

Adoring	Finding someone or something cute, adorable, or attractive.	He is the cutest thing ever.	36
Amused	Finding something funny, entertaining, or interesting.	That was soooo funny.	30
Approving	Expressing support, praise, admiration, or pride.	This is really fantastic!	102
Excited	Expressing joy, zeal, eagerness, or looking forward to something.	Really looking forward to this!	41
Angered	Expressing anger, revulsion, or annoyance.	I'm so frustrated to see this.	26
Saddened	Expressing sadness, sympathy, or disappointment.	So sad from reading this.	34
Scared	Expressing worry, concern, stress, anxiety, or fear.	Extremely worried about finals.	2

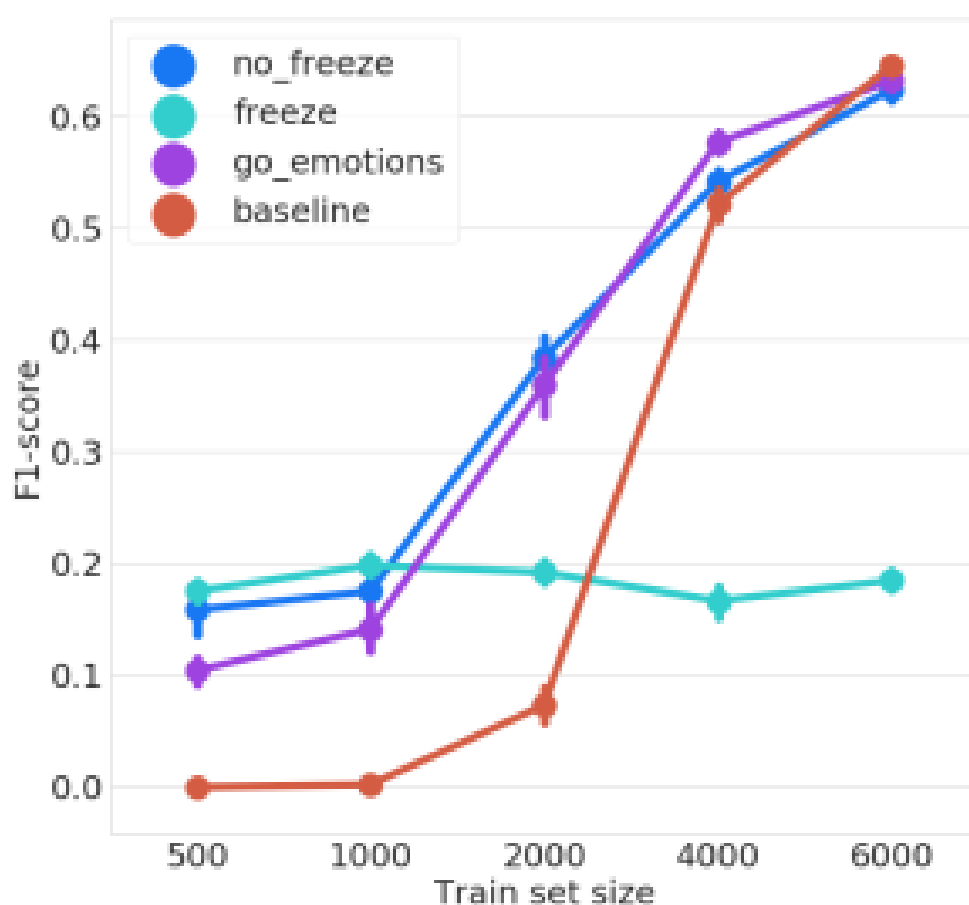
ANNOTATOR AGREEMENT WITH CARE LABELS

# Agree	Any CARE	All CARE	Other
≥ 1	98	96	82
≥ 2	94	90	53
= 3	80	76	24

PRECISION-RECALL CURVES



F1-SCORE COMPARISONS FOR DIFFERENT MODELS



CARE METHOD: ANNOTATING AFFECTIVE RESPONSES

