

Editorial

Editorial for the Special Issue on “Love & Hate in the Time of Social Media and Social Networks”

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Social networks are becoming more and more present in our daily lives. According to the Global Web Index, digital consumers spend an average of 2 h a day on social media and messaging. Thus, a large body of research has been developed in recent years to automatically process social media and social networks, with the aim of understanding, discovering insights into, and exploiting this information. All of this has contributed to the development of research areas such as sentiment analysis and social network analysis. The new communication media offer a unique opportunity to observe “in the wild” feelings and reactions spontaneously expressed on different topics, often using figurative language: sarcastic messages can be those that spread more virulently.

Nowadays, the focus of research is moving from polarity classification to more advanced and fine-grained aspects that can reveal insights into users’ emotions or personality traits or into their specific stance towards a target in online political debates, for which the presence of hate speech is also an important issue to monitor for preventing interference with other rights and the occasioning of certain harms. The temporal evolution of opinions in online communities is also a significant research topic that calls for a combination of sentiment and social network analysis techniques. This special issue includes three contributions that analyze strong feelings, such as love or hate, in social media and social networks, which are briefly described below.

In the paper entitled “TwitPersonality: Computing Personality Traits from Tweets Using Word Embeddings and Supervised Learning”, Giulio Cardacci et al. propose to compute Big Five personality traits from Twitter, usually referred to as OCEAN (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism). They propose a supervised learning model to compute personality traits. For this purpose, they process tweets and represent them as word embedding vectors. These vectors train a model for each personality trait using support vector machines as the learning method. Their system is trained with the MyPersonality dataset, which contains Facebook status updates. Moreover, the authors tested the transfer learning predictive power of the developed model by testing the model with an in-house experiment.

In another paper entitled “A Comparison of Emotion Annotation Approaches for Text”, Ian Wood et al. discuss the influence of emotion representation schemes and annotation methods (relative vs. absolute) on the quality of the annotation process. Regarding emotion representation schemes, they compare Ekman’s Big Six categorical emotion model (including *joy*, *fear*, *anger*, *disgust*, *sadness*, and *surprise*) with Fontaine’s VADS dimensional model (including *valence*, *arousal*, *dominance*, and *surprise*). On the basis of experimentation on a dataset with both representation schemes, the inter-annotator agreement turned out to be higher with a relative annotation methodology on a dimensional emotion model over a categorical methodology. Another finding of this article was that annotations on a 5-point scale produced greater inter-annotation agreement than comparisons in a dimensional emotion model. As a valuable outcome of experiments described in the paper, a new

public dataset of English tweets annotated with Fontain's VADS dimensional emotion model was released, available to the community for further experiments.

In the last paper entitled "Towards Aiding Decision-Making in Social Networks by Using Sentiment and Stress Combined Analysis", Guillem Aguado et al. address how users can prevent the diffusion of negative emotional states in social networks. For this purpose, they propose a multiagent system that analyzes the sentiment polarity, stress level, and a combination of both and advises users about the potential repercussions of posting messages under a negative emotional state. For its evaluation, the authors collected several datasets from Twitter and analyzed how the sentiment and stress level of a post could influence the emotional state of those replying.

To conclude, the selected contributions reflect the spirit of the issue, which was conceived with the main aim of investigating, on the one hand, the complex and often polarized manifestations of emotion and sentiment in social media and social networks, relying on a variety of computational models of affect-based phenomena, and, on the other hand, people's traits, including aspects related to human personality. We express our hope that this collection can be a stimulus for fruitful future research in the field.

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