Guest Editors
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Rationale
Social media analytics have proven valuable in numerous research areas as a pragmatic tool for public opinion mining and analysis. Sentiment analysis addresses the dynamics of complex socio-affective applications that permeate intelligence and decision making in the sentient and solution-savvy Social Web.

Having started as simple polarity detection, contemporary sentiment analysis has advanced to a more nuanced analysis of affect and emotion sensing. Detecting fine-grained sentiment in natural language, however, is tricky even for humans, making its automated detection very complicated. Moreover, online opinions can be put forth in the form of text reviews or ratings, for a product as a whole, or each of its individual aspects. Multiple and lengthy reviews, usage of casual dialect with microtext (wordplay, neologism and slang), use of figurative language (sarcasm, irony), multilingual content (code-mixed and code-switched) and opinion spamming add challenges to the task of extracting opinions.

Recently memes, GIFs, typo-graphic (artistic way of text representation), info-graphic (text embedded along with an image) visual content and edited videos also dominate social feeds. Consequently, the intra-modal modeling and inter-modal interactions between the textual, visual and acoustic components add to the linguistic challenges. Therefore, conceptualization and development of multi-faceted sentiment analysis models to adequately capture observed opinion-sensitive information are imperative.

Artificial-intelligence driven models, especially deep learning models, have achieved state-of-the-art results for various natural language processing tasks including sentiment analysis. We get highly accurate predictions using these in conjunction with large datasets, but with little understanding of the internal features and representations of the data that a model uses to classify into sentiment categories. Most techniques do not disclose how and why decisions are taken. In other words, these black-box algorithms lack transparency and explainability.

Explainable artificial intelligence (XAI) is an emerging field in machine learning that aims to address how artificial-intelligence systems make decisions. It refers to artificial-intelligence methods and techniques that produce human-comprehensible solutions. XAI solutions will enable enhanced prediction accuracy with decision understanding and traceability of actions taken. XAI aims to improve human understanding, determine the justifiability of decisions made by the machine, introduce trust and reduce bias.
This special issue aims to stimulate discussion on the design, use and evaluation of XAI models as the key knowledge-discovery drivers to recognize, interpret, process and simulate human emotion for various sentiment analysis tasks. We invite theoretical work and review articles on practical use-cases of XAI that discuss adding a layer of interpretability and trust to powerful algorithms such as neural networks, ensemble methods including random forests for delivering near real-time intelligence.

Concurrently, works on social computing, emotion recognition and affective computing research methods which help mediate, understand and analyze aspects of social behaviors, interactions, and affective states based on observable actions are also encouraged. Full length, original and unpublished research papers based on theoretical or experimental contributions related to understanding, visualizing and interpreting deep learning models for sentiment analysis and interpretable machine learning for sentiment analysis are also welcome.

**Topics of interest**

Topics of interest include, but are not limited to:

- XAI for sentiment and emotion analysis in social media
- XAI for aspect-based sentiment analysis
- XAI for multimodal sentiment analysis
- XAI for multilingual sentiment analysis
- XAI for conversational sentiment analysis
- Ante-hoc and post-hoc XAI approaches to sentiment analysis
- Semantic models for sentiment analysis
- Linguistic knowledge of deep neural networks for sentiment analysis
- Explaining sentiment predictions
- Trust and interpretability in classification
- SenticNet 6 and other XAI-based knowledge bases for sentiment analysis
- Sentic LSTM and other XAI-based deep nets for sentiment analysis
- Emotion categorization models for polarity detection
- Paraphrase detection in opinionated text
- Sarcasm and irony detection in online reviews
- Bias propagation and opinion diversity on online forums
- Opinion spam detection and intention mining

**Important Dates**

- Submission Deadline: 15th November, 2020
- Peer Review Due: 1st February, 2021
- Revision Due: 15th March, 2021
- Final Decision: 1st May, 2021

**Composition and Review Procedures**

All manuscripts submitted must be original, not under consideration elsewhere, and not previously published. The peer review process is designed to avoid bias and conflict of interest on the part of reviewers and is composed of experts in the relevant field of research. A key criterion in publication decisions will be the manuscript’s fit for the special issue and the readership of KBS. Papers will be published online as soon as accepted in a continuous flow. The final edition is scheduled for publication in April 2021.