Special Issue on:
Deep Learning Methods for Cyber bullying Detection in Multi-modal Data

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Aims and Scope

The global and pervasive reach of social multimedia has in return given some unpremeditated consequences where people have discovered illegal & unethical ways to use the socially-connected virtual communities. One of its most severe upshots is known as cyber bullying where individuals find new means to bully one another over the Internet. It is the freedom and anonymity associated with the social media platforms that increase the vulnerabilities of users and puts a negative effect on the minds of both the bully and victim.

Pertinent primary and secondary studies demonstrate that cyber bullying is a grave issue where feelings of sadness, anger, fear, depression, low self-esteem, self-harm and suicidal thoughts are the common emotional and mental aftermaths associated with the victim’s well-being. Timely actions to combat cyber bullying are imperative to mitigate the risk of being victimized online and its effective detection is dependent on persistent and proficient monitoring of the user-generated content on social media platforms. But the continuous influx of information on the Web makes manual monitoring of the online content by moderators impractical, arduous and time-consuming. Thus, it has now become crucial to build clever, intelligent and semantic information filters which can process information faster and spontaneously hint possible threats. This would facilitate the moderators with a quick response and action time.

Most of the research on cyber-aggression, harassment detection, hate and toxicity detection in social media posts/comments has been limited to text-based analytics. More recently, as memes, GIFs
and edited videos dominate the social feeds, intra-modal modeling and inter-modal interactions between the textual, visual and acoustic components add to the linguistic challenges. The machines now need to extend the cognitive capabilities to interpret, comprehend and learn features over multiple modalities of data acquired from different media platforms. Thus, the research on cyberbullying detection warrants a new line of inquiry to understand how representation learning and shared representation between different modalities and the heterogeneity of the multi-modal data challenges the performance of models.

Deep learning methods have achieved state-of-the-art results especially in the domains of computer vision and natural language processing (NLP) owing to the hierarchical learning and generalization capabilities. This special issue intends to bring together the innovative research and studies that address the challenges and applications of deep neural architectures to model, learn and fuse multi-modal data for cyber bullying detection. We would like to encourage submissions on latest theoretical and technical solutions, methods and applications that leverage deep learning in multiple modalities of data to detect and effect cyber bullying.

We solicit original research and survey papers on the topics including (but not limited to):

- Deep learning methods for textual cyber bullying detection
- Deep learning methods for visual cyber bullying detection
- Deep learning methods for acoustic cyber bullying detection
- Deep learning methods for cross-modal and inter-modal cyber bullying detection
- Deep learning methods for cross-lingual modalities in cyber bullying detection
- Multi-modalities for representation learning in cyber bullying detection
- Multi-modal semantic modeling for cyber bullying detection
- Multi-modal data fusion for cyber bullying detection

**Important Dates**

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<td>Submission Deadline</td>
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<td>First notification</td>
<td>March 10, 2020</td>
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<td>Revision</td>
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**Submission Guideline**

Papers submitted to this special issue for possible publication must be original and must not be under consideration for publication in any other journal or conference. If the submission is an extended version of a previously published workshop or conference paper, this should also be explicitly mentioned in the cover letter, as well as the published paper must be cited in the submitted journal version.

The manuscripts will be peer-reviewed strictly following the reviewing procedures. The submissions should clearly demonstrate the evidence of benefits to society or large communities. Originality and impact on society, method novelty will be the major evaluation criteria. Good survey papers on recommendation related topics are strongly encouraged.

The papers must be written in English and must not exceed 30 pages (single column, double space, 12 pt font, including figures, tables, and references). Authors must follow the formatting and submission instructions of MMSJ at [https://www.springer.com/530](https://www.springer.com/530) and follow the "Submit Online" link on that page. Please make sure you mention in your cover letter that you are submitting to this special issue.