CONCLUSIONS

In order to improve the KBRS performance, the eSM2 was modeled, considering user profile parameters, geographical location and the theme of the sentence to identify the sentiment intensity of a message. These two parameters are not considered in current sentiment metrics. The performance assessment of eSM and eSM2 metrics was performed, and results obtained by the eSM2 were superior in the perceptual evaluation of the RS.

This fact demonstrated the relevance of using additional user profile parameters to improve the sentiment metric performance. Also, the ontology concept was used in the proposed KBRS. It is important to note that the correction factor proposed in eSM2, based on the user’s profile, can be applied to other sentiment metrics.

Currently, there are few works that use OSN data to detect stress conditions. The solution for monitoring the depressed or stressed condition in OSN users, using the CNN for characterlevel representation, and the BLSTM-RNN for the disorder entity recognition, presented an accuracy for depression and stress detection of 0.89 and 0.90, respectively. These accuracy values are higher than the results obtained in related works.

In the performance assessment tests, the proposed KBRS was compared to another KBRS that does not consider a sentiment metric and ontology. Results demonstrate that the proposed KBRS overcomes the RS without sentiment metric and ontology, reaching 94% and 69% of very satisfied users, respectively. According to the users, an RS that does not consider ontology and a sentiment metric performs a very poor suggestion, using a more generic and not personalized content. The best result obtained by the KBRS proves the effectiveness of the use of ontology and especially the use of a personalized sentiment analysis instead of a general sentiment analysis. In general, the recommended messages sent to the appropriated users improved their emotional state, and this is the most significant contribution of this research.