

PUBLIC SENTIMENTS ABOUT PANDEMIC AND VACCINE: A MACHINE LEARNING ANALYSIS

Author(s): Koushal Kumar¹, Bhagwati Prasad Pande²

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Abstract:

In the contemporary era of soft computing, researchers are granting adequate attention to sentiment analysis. The recent pandemic and the exhaustive vaccination campaigns triggered immoderate discussions on digital platforms. From the general people to privileged individuals, the public exhibited miscellaneous sentiments through their social media accounts. In the present work, people's sentiments about the COVID-19 pandemic and its vaccines are studied and assessed by exploiting their Tweets (now called posts). A three-level framework is fabricated and applications of word embedding techniques and the N-gram feature selection model are exercised. The normalised Twitter (now known as X) data is passed to machine learning models for the classification of sentiments and their performances are compared over the standard performance parameters. It is found that most people bear neutral emotions about the pandemic and neutral and positive emotions about the vaccine and vaccination drive. The Extreme Gradient Boosting algorithm has come out as the best classifier for the present quest of sentiment analysis.

Keywords: sentiment analysis; COVID-19 pandemic; vaccine; COVID-19 vaccination campaign; Twitter/X; Tweets/posts; machine learning; n-gram.

For full paper, contact:

Prof Muhammad Imran Aslam

Editor-in-Chief, NED University Journal of Research

Ph: +92 (21) 99261261-8 Ext:2670; Fax: +92 (21) 99261255

Email: NED-Journal@neduet.edu.pk

Website: <http://www.neduet.edu.pk/NED-Journal>

¹ Assistant Professor, Sikh National College, Qadian, Guru Nanak Dev University, Punjab, India, Ph. +91(0)8968939621, Email: kaushal_kumar302@yahoo.com.

² Assistant Professor, Department of Computer Applications, Soban Singh Jeena University, LSM Campus, Pithoragarh, Uttarakhand, India, Ph. +91(0)9837866642, Email: bp.pande21@gmail.com.