35th World Summit on
Positive Psychology, Happiness, Mindfulness and Wellness
April 28-29, 2022 | Webinar
Volume: 12

Sentimental analysis modelling on medical terms among seafarers health documents

Nalini Chintalapudi
Information Sciences, School of Science and Technology, University of Camerino, Camerino, 62032, Italy.

Seafarers are in general at risk for several health problems, with an incidence of diseases and accidents higher than ashore workers. In diagnosing diseases, the situation is made even worse by the lack of onboarding of the largest majority of seagoing vessels of health professionals. In such cases, providing better symptomatic details and clinical words in medical abstracts of seafarers may help onshore doctors assist people on board ships via telemedicine to make quick decisions. It is hard to extract relevant data from random medical documents and the adoption of text mining techniques can help to extract diagnostic data from medical texts. Due to the lack of experimental evaluations of seafarers' text medical documents by computational techniques, we applied lexicon sentimental analysis to explore the automatic labelling of positive and negative medical terms. Lasso regression algorithm is framed to analyze these text documents with association rules to classify the diseases and associated symptoms. By analysis of TF-IDF values, visualization of symptomatic data frequency for each disease is possible. The use of a machine learning model called LASSO regression in the prediction of medical terms in particular documents and outcomes provided that the proposed approach allowed to classify the text documents with 93.8% of accuracy. Tidy text mining libraries have the potential to effectively classify text documents. This approach can be used not only in delivering medical assistance but also for the classification of diseases and the development of health observatories. A practical application of knowledge developed in this work will be the use of this approach for establishing the Epidemiological Observatory of Seafarers Pathologies and Injuries, a collaborative initiative of the Italian Ministry of Health, University of Camerino and International Radiomedical Centre (C.I.R.M.), the Italian TMAS.

Keywords: Seafarers; Text Mining; Lasso Regression; Disease Mapping; Correlations.

Biography

Dr Nalini Chintalapudi is a researcher at the School of Medicinal and Health Products Sciences at the University of Camerino, Italy. A master's degree (with honours) in Computer Science and Engineering from JNT University, India. Her research area includes Sentimental analysis, natural language processing, data mining, big data and machine learning. Dr Nalini is a member of the European Research Committee and has published more than 35 several research papers in SCI, SCIE and Scopus indexed journals and attended conferences, seminars, and guest talks on an international platform. She is a reviewer of many reputed international journals from publishing houses including Elsevier, MDPI, Wiley, Dove, plus one etc and chaired international conferences.

nalini.chintalapudi@unicam.it