



## TITLE: Regression Modeling on Prediction of Medical Terms among Seafarers' Health Documents

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### ABSTRACT

Generally, seafarers face a higher risk of illnesses and accidents than land workers. In most cases, there are no medical professionals on board seagoing vessels. This makes disease diagnosis and treatment even more difficult. When this occurs, onshore doctors may be able to provide medical advice through telemedicine by receiving better symptomatic and clinical details in the health abstracts of seafarers. The adoption of text mining techniques can assist in extracting diagnostic information from clinical texts. We applied lexicon sentimental analysis to explore the automatic labelling of positive and negative healthcare terms to seafarers' text healthcare documents. This was due to the lack of experimental evaluations using computational techniques. To classify diseases and their associated symptoms, the LASSO regression algorithm is applied to analyze these text documents. A visualization of symptomatic data frequency for each disease can be achieved by analyzing term frequency (TF). The proposed approach allows for the classification of text documents with 93.8% accuracy by using a

machine learning model called LASSO regression. It is possible to classify text documents effectively with tidy text mining libraries. In addition to delivering health assistance, this method can be used to classify diseases and establish health observatories. This work is supported by a grant from the Italian Ministry of Health No. CUP J59J21011210001.

### BIOGRAPHY



Ms Nalini Chintalapudi is a doctoral student at the clinical research centre, School of Medicinal and Health Products Sciences, University of Camerino in Italy. She finished her master's in Computer Science in 2015. Her research area includes Text mining, Semantic Analytics, Natural Language Processing, Artificial Intelligence, Data mining, Big data and Machine learning. She has published more than 35 several research papers in SCI, SCIE and Scopus indexed journals.

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