Notice for the PhD Viva Voce Examination

Ms Jyothsna R (Registration Number: 2090206), PhD scholar at the School of Sciences, CHRIST (Deemed to be University), Bangalore will defend her PhD thesis at the public viva-voce examination on Monday, 27 May 2024 at 11.00 am in Room No. 044, Ground Floor, R & D Block, CHRIST (Deemed to be University), Bengaluru - 560029.

Title of the Thesis	:	**Subjectivity Analysis Using Social Opinion Mining on Stress and Strain during COVID-19 Pandemic**
Discipline	:	**Computer Science**
External Examiner (Outside Karnataka)	:	**Dr Gladston Raj S** Professor Government College Kariavattom, Thiruvananthapuram Kerala – 695581
External Examiner (Within Karnataka)	:	**Dr Manjunath Aradhya** Professor Department of Computer Applications JSS Science and Technology University Mysuru Karnataka - 570006
Supervisor	:	**Dr Rohini V** Professor Department of Computer Science School of Sciences CHRIST (Deemed to be University) Bengaluru – 560092 Karnataka

The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Registrar

Place: Bengaluru
Date: 22 May 2024

ABSTRACT

The psychological health of several people across the globe has been under great risk as a result of the Covid-19 pandemic that shook the entire world. The transition from normal life to a life filled with several restrictions has been stressful and strenuous. A state of emotionally or physically being tensed can be considered as stress. Stress also leads to strain. People have expressed their stressful situations and coping mechanisms through tweets, Facebook posts and several other social media sites during the pandemic. The underlying stress and strain of a person can be analyzed through the posts shared by the person through the social media sites. The present research focuses on subjectivity analysis through social opinion mining during the Covid-19 pandemic.

The domain of Social opinion mining system involving subjectivity analysis with stress, strain, sarcasm identification and gender detection based on tweets considering the situation of the Covid-19 is underexplored; hence the present research aims to develop a framework for the same. A deep neural network based stress and strain detection system considering the COVID 19 scenario based on tweets associated with COVID 19 is developed. Three models are constructed using deep neural networks namely, RNN with single LSTM layer, two layers of LSTM with RNN followed by bidirectional LSTM layer to detect stress and strain for the considered dataset. The research work is further extended to analyze whether a tweet is sarcastic or not, followed by conceptualizing whether it is tweeted by male or female. The architecture for detecting sarcasm involves construction of non-probabilistic, binary linear classifier. The firefly optimization technique optimizes the linear classifier. Analyzing whether a tweet is posted by a male or female is accomplished using RNN-LSTM deep learning architectures.

Keywords: Subjectivity analysis, stress, strain, Deep Learning, Opinion mining.

Publications:

1. Jyothsna R, V. Rohini, and Joy Paulose. "Sentiment Analysis on COVID-19 Related Social Distancing Across the Globe Using Twitter Data." *ECS Transactions* 107.1 (2022): 3995.
2. Jyothsna, R., V. Rohini, and Joy Paulose. "Sentiment Analysis of Stress Among the Students Amidst the Covid Pandemic Using Global Tweets." *Ambient Intelligence in Health Care: Proceedings of ICAIHC 2022.* Singapore: Springer Nature Singapore, 2022. 317-324.
3. Jyothsna, R., V. Rohini, and Joy Paulose. "A Novel Auto Encoder-Network-Based Ensemble Technique for Sentiment Analysis Using Tweets on COVID-19 Data." *Machine Intelligence.* Auerbach Publications, 2023. 257-272.
4. Jyothsna, R., V. Rohini, and Joy Paulose. "Novel deep neural network based stress detection system." *AIP Conference Proceedings.* Vol. 2909. No. 1. AIP Publishing, 2023