Nippani Abhinav

Birla Institute of Technology and Sciences, Pilani - Hyderabad Campus

f20160278@hyderabad.bits-pilani.ac.in

10th June, 2020

Dear Editor,

I have the pleasure of sending you the manuscript titled “Forecasting News Driven Stock Market Movements using ML and NLP Techniques” authored by Nippani Abhinav, A Venkata Sravan Bharadwaj and Dr. Nivedita Sinha to be considered for publication as a research article in your prestigious journal – Expert Systems with Applications.

We believe that this manuscript is appropriate for publication by “Expert Systems with Applications” because the paper applies artificial intelligence techniques like machine learning and natural language processing to stock trading and would appeal to readers of the journal.

This paper tries to formulate a method to predict the direction of a stock market index on a day-to-day basis using news headlines. The effect of news and stock features on the stock market have been studied separately in previous studies. This paper tries to bridge that gap by studying the combined effect of news and stock features on the stock market. A combination of natural language processing techniques like LDA(Latent Dirichlet Allocation) have been used to extract features from the news dataset. Machine Learning algorithms have then been used to predict the directions based on stock market features on a daily basis from 2010 to 2018. The same aforementioned algorithms have been used to predict the same output on combining the news features and stock features and both the results have been compared. Further, a new method has been proposed to partition the dataset which calculates the accuracy by training the data using windows on a rolling basis and this has resulted in an accuracy of 97 percent.

Enclosed with this cover letter are the following documents:1 Highlights file(Latex); 1 Manuscript(Latex) and 13 figures. The paper contains original research and has not been submitted / published earlier in any journal and is not being considered for publication elsewhere. All authors have seen and approved the manuscript and have contributed significantly to the paper. We have no conflicts of interest to disclose.

Please address all correspondence concerning this manuscript to me at f20160278@hyderabad.bits-pilani.ac.in. Thank you for your consideration of this manuscript.

Sincerely,

Abhinav