

Analyzing the Preference for Remote Work Due to Sri Lanka's Economic Crisis: Insights from Twitter Data using NLP/ML

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Abstract

An important change in the dynamics of employment has emerged in Sri Lanka due to the economic downturn. Remote work has become a hot topic due to the on-going crisis. This study examines public attitudes toward remote work in Sri Lanka amid the current economic crisis. With the rise of remote work due to employment uncertainties, the research seeks to understand how people view remote jobs in comparison to traditional roles. Utilizing Twitter as the main source of data, the study employed Natural Language Processing (NLP) techniques and Machine Learning (ML) algorithms, including Naïve Bayes, Support Vector Machine (SVM), Random Forest, Logistic Regression, and Gradient Boosting, to categorize tweets from 2020 to 2024 into positive, negative, and neutral sentiments. The results indicated that SVM was the most successful model, achieving an 85% accuracy rate according to precision, recall, and F1 score evaluations. The sentiment analysis showed 41% negative, 30% positive, and 29% neutral sentiments, demonstrating the range of public viewpoints on remote work during this crisis. While these insights are valuable, the demographic limitations of Twitter, which skews toward younger, tech-savvy users, could restrict the broader applicability of the results. Future studies should investigate using other data sources, such as surveys, to gain a wider understanding. The research underscores the significance of hybrid work models and stresses the urgent need for enhanced digital infrastructure and support systems to facilitate remote work in the challenging economic landscape of Sri Lanka. Finally, the study provides valuable insights for policymakers and employers concerning the evolving job scene in Sri Lanka and emphasizes the need for improved digital infrastructure and support systems for remote work.

Keywords: *Economic Crisis, Machine Learning, NLP, Remote Work, Twitter Sentiment Analysis.*