Abstract

Modern interactions do not require face-to-face meetings, as social media has

become a platform for indirect communication. X, as one of the social media platforms

with 27.5 million users, serves as a space for text-based social interactions, providing a

vast amount of data that can be collected and utilized in this study to compare the

performance of Logistic Regression and Naive Bayes in predicting personality traits based

on social media data from X.

In this study, experiments were conducted under three scenarios: without

interaction data, with interaction data, and with data augmentation. Logistic Regression

performed better in capturing patterns in text data, achieving the highest accuracy of

52.63%, while Naive Bayes was more stable when dealing with imbalanced data, with a

highest accuracy of 51.58%. The addition of interaction data did not provide significant

improvements due to a lack of variation in distribution. However, data augmentation

slightly increased accuracy, particularly for Naive Bayes. The key factors affecting model

performance were feature extraction methods, data quality and variation, and data

imbalance. Therefore, based on this study, selecting the right features and optimizing data

processing strategies play a crucial role in improving personality prediction accuracy.

Keywords: X, Interaction, Logistic Regression, Naive Bayes.

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