
ABSTRACT

Emotion, intricately woven through the brain's structures, involves complex neural processes in the brain stem, amygdala, insula, and anterior cingulate cortex. This intentional and affective state finds expression through diverse channels, with social media emerging as a prominent platform. Since its 2021 launch, My Tel-U has seen significant post activity, providing a valuable dataset for research. This study delves into emotion classification using machine learning within the My Tel-U dataset and assesses model performance. The study's findings have several critical implications. Firstly, the choice of text encoding method plays a significant role in emotion classification model performance, with the TF-IDF method emerging as the optimal choice. Secondly, Support Vector Machine (SVM) and Random Forest exhibit remarkable accuracy-to-execution time ratios, making them suitable for emotion classification tasks. Thirdly, addressing dataset imbalance through methods like SMOTE significantly enhances model performance, highlighting the importance of imbalanced handling. Lastly, private social media datasets, such as My Tel-U, demand specialized handling and models due to unique user communication styles, resulting in higher emotion classification accuracy. Future endeavors may explore hybrid models that combine the strengths of diverse machine learning techniques, such as merging Support Vector Machine's precision with Random Forest's ensemble efficiency. Additionally, the potential of deep learning models like recurrent neural networks (RNNs) and convolutional neural networks (CNNs) promises enhanced emotion classification accuracy. The path to unraveling the complexities of human emotions is just beginning, and this study marks a significant step towards realizing its potential.

Kata Kunci: emotion classification, machine learning, social media analysis