

# Prevention of Cyber Bullying using Machine Learning Techniques

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Cyber bullying has rapidly increased in the past few years with the growth of social media usage and the COVID-19 pandemic. This study uses a dataset of 65000 tweets , splitting them into training and testing sets. Data pre-processing was done using feature engineering methods such as vectorizing, and Bag of Words to prepare data to test machine learning models or classifiers to build a model. Five different classifiers were tested with dataset and Naïve Bayes Model and linear support vector classification model provided the best accuracy and prediction times in sequence. The Sentiment Analysis System was built using Naïve Bayes Model and it is deployed to the web interface using Flask to get user input and predict sentiment in the three key aspects of negative, positive and neutral. System tested with user inputs and gained accurate sentiment Scores (comment: “listen to my most beautiful friend singing with her beautiful voice” Scores: Compound- 0.97 Neutral – 0.166 Positive – 0.834 Negative – 0.0) with three key aspects. The aim of this research work is to utilize man-made consciousness at a specific level to pre-empt exploitation by recognizing the riskiest clients and accounts.

**Keywords:** *cyber bullying, social networks, machine learning, sentiment analysis*