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Instagram Sentiment Analysis for Cyberbullying Comments

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Abstract

Instagram, as one of the leading social media platforms, has gained immense popularity worldwide. However, with its widespread use, the issue of cyberbullying has become a significant concern. Cyberbullying involves the use of digital communication to harass, intimidate, or harm individuals, leading to negative psychological and emotional effects. To address this problem, this research focuses on developing an Instagram sentiment analysis system for cyberbullying comments.

The primary objective of this study is to automatically detect and classify cyberbullying comments on Instagram using machine learning techniques. The proposed system utilizes natural language processing and sentiment analysis algorithms to analyze the sentiment and content of comments. By employing advanced machine learning models such as Naive Bayes, Random Forest, and Support Vector Machines, the system aims to accurately identify and categorize cyberbullying comments.

To develop and evaluate the system, a comprehensive dataset of Instagram comments, including both cyberbullying and non-cyberbullying instances, will be collected and annotated. Various preprocessing techniques will be applied to clean and normalize the text data, followed by feature extraction and model training. The performance of the system will be assessed using standard evaluation metrics such as accuracy, precision, recall, F1 score, and ROC AUC score.

The expected outcome of this research is an efficient and reliable Instagram sentiment analysis system capable of automatically detecting and classifying cyberbullying comments. The system can provide valuable insights to users, moderators, and platform administrators, enabling timely intervention and proactive measures to mitigate cyberbullying incidents. The significance of this research lies in its potential to contribute to a safer and more positive online environment by combating cyberbullying on Instagram. The findings and methodologies from this study can also be applied to other social media platforms, extending the impact of the research beyond Instagram. Ultimately, the development of an effective sentiment analysis system can foster a more inclusive and supportive online community while promoting user well-being and mental health.

Keywords: Instagram, Sentiment Analysis, Cyberbullying, Machine Learning, Natural Language Processing, Social Media.