PAPER REPORT FOR TASK -2

Paper Title: Social Media Bullying Detection Using Machine Learning on Bangla Text
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Abstract:
With the increasing use of Bangla on social media and the prevalence of cyberbullying, this paper addresses the challenges faced in monitoring Bangla text for abusive content. The authors propose a machine learning-based approach, utilizing user information to enhance cyberbullying detection accuracy. The study involves collecting Bangla text from social media platforms, labeling it as bullied or not bullied, and training various machine learning models. The results indicate that a Support Vector Machine (SVM) achieves a detection accuracy of 97%, showcasing the effectiveness of the proposed method.

Introduction:
Cyberbullying, the use of technology to send threatening or embarrassing messages, poses significant challenges, especially on social media platforms. This paper focuses on cyberbullying detection in Bangla text, highlighting the need for effective monitoring strategies due to the linguistic nuances and socio-emotional behavior specific to Bangladesh.

Motivation:
The motivation behind this research stems from the increasing use of Bangla on social media and the lack of comprehensive studies on cyberbullying detection in Bangla text. The authors emphasize the importance of addressing these issues to protect the vulnerable and young population active on platforms like Facebook, where more than 90% of social media users in Bangladesh are engaged.

Methodology:
The study employs a novel scheme that combines text analytics and machine learning algorithms. The workflow includes data collection through a Java crawler from Facebook and Twitter, data cleaning, and preprocessing. Machine learning models (Naïve Bayes, SVM, J48, KNN) are trained and tested using a dataset containing both text-based features and user-specific information.

Results and Discussion:
In the first phase of the experiment, SVM-based classification outperforms other algorithms with a detection accuracy of 95.40%. The second phase, incorporating user-specific data, further enhances the performance of the algorithm, with SVM achieving an impressive accuracy of 97.27%. The results emphasize the significance of considering user information for improved cyberbullying detection in Bangla text.

Conclusion:
The research concludes that cyberbullying detection in Bangla text requires a tailored approach. The proposed scheme, leveraging machine learning and user-specific information, demonstrates promising results, especially with the SVM algorithm. The study opens avenues for further exploration of individual feature significance and encourages ongoing efforts to address cyberbullying in the context of Bangla language on social media platforms.