Analisis Sentimen Keamanan Akun Dalam Game *Mobile Legend* Menggunakan Metode *Naive Bayes*

(*Account Security Sentiment Analysis in Mobile Legend Game Using Naive Bayes Method*)

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ABSTRACT

The number of hacking cases, personal data theft, and account misuse in the Mobile Legends game continues to increase, raising significant concerns about player account security. The purpose of this study is to determine how users perceive and perceive the security of their accounts using the Naive Bayes text classification algorithm. A crawling technique based on security keywords such as "ML account hack" and similar keywords was used to collect data from social media platforms, specifically Twitter. The data was then categorized into three sentiment categories: positive, negative, and neutral. Before being used for model training, the data underwent preprocessing stages to improve text quality. These stages included text cleaning, case merging, tokenization, normalization, stopword removal, and stemming. After weighting was completed, the TF-IDF method was used to generate a numerical value indicating the importance of each word in the document. After data processing, the Naive Bayes model was trained using the F1 score, accuracy, precision, and recall. The evaluation results were conducted on three data volume scenarios: 100, 300, and the entire dataset, both without and with the SMOTE oversampling method. The results show that using SMOTE significantly improves model performance, especially on small datasets with imbalanced class distributions. The system is implemented as a Flask-based web application that offers evaluation graphs and word clouds for each sentiment class, simplifying the visualization and interpretation of analysis results. This research is expected to improve understanding of how users perceive account security in online gaming and help developers create account security systems that better reflect user sentiment.

***Keywords**: Sentiment Analysis, Naïve Bayes, Account Security, Mobile Legends, TF-IDF, SMOTE, Social Media, Flask.*