

## **ABSTRACT**

*IndiHome is a significant communication and internet service provider in Indonesia. As the number of users increases, understanding public sentiment towards IndiHome becomes crucial. Twitter (now X) has become the main platform for customers to share their experiences and opinions regarding IndiHome's services. Sentiment analysis using machine learning offers an effective approach to automatically understanding public opinion from large volumes of text data. The Extreme Gradient Boosting (XGBoost) algorithm, known for its high scalability and efficiency in handling large datasets, is a promising choice for sentiment analysis. This research aims to develop an optimal sentiment classification model using the XGBoost algorithm to accurately predict tweet sentiments and analyze sentiment towards IndiHome services based on customer opinions expressed on Twitter using the XGBoost method. This research is conducted in four stages: data collection & data cleaning, data preprocessing, modeling & evaluation, and finally, analysis. Evaluation results show that the XGBoost model with default parameters achieves an accuracy of 75%. The hyperparameter tuning method with Grid Search achieves an accuracy of 77%, and Randomized Search achieves an accuracy of 76%. Sentiment and word association analysis reveal that negative sentiment is dominant, with the main complaints related to internet connection disruptions and service quality. This research provides valuable insights for IndiHome in understanding customer sentiment and identifying areas that need improvement.*

*Keywords: Sentiment Analysis, IndiHome, XGBoost.*