

## 1. Pendahuluan (Introduction)

According to a UNESCO publication, disinformation refers to false information deliberately created by a party to deceive the public and intentionally influence public opinion for personal gain [1]. According to the findings of the AIS team from the Ministry of Communication and Informatics in 2019, there were 3,356 instances of hoax spread across various social media platforms, with the highest number found in April 2019, coinciding with the presidential election, totaling 501 hoaxes [2].

Based on Kepios analysis of data published in Twitter's advertising tools in April 2023, Twitter is one of the largest social media platforms used by the Indonesian population, ranked number sixth, with at least 14.8 million active Twitter users, various individuals ranging from young people to adults with various backgrounds are included in this large number[3]. People who often interact with the internet, will very likely find that they can get information regardless of the facts through twitter. So with that number, this amount is a very significant thing.

The most commonly used feature is tweeting, which is used to express opinions, criticism, or suggestions about various topics. This makes Twitter a platform for the spread of disinformation. Tweets related to a particular subject that appear daily, often without being validated for their accuracy, can influence readers' perception of the subject. Additionally, with the retweet and share features, people can easily propagate tweets and make the news appear on their followers' timelines.

In the context of disinformation and its spread through social media platforms like Twitter, it is crucial to address the challenges posed by misleading information, especially during critical periods such as elections. Previous research and studies have highlighted the significance of employing reliable disinformation detection systems to combat false information and preserve the integrity of public opinion.

Several studies have been conducted to develop effective disinformation detection algorithms. For instance, research on credibility detection has shown promising results using machine learning algorithms like Random Forest, achieving an accuracy of 78.4% [4]. Another study utilized the Light Gradient Boosted Machine algorithm to classify news with an accuracy of 93.3% [5]. Additionally, transformer-based models like BERT, RoBERTa, and CT-BERT have proven to be powerful tools in detecting fake news on social media, with CT-BERT achieving an impressive accuracy of 98.69% [6].

Inspired by the success of transformer-based models in previous research, the current study aims to build upon this knowledge to enhance the detection of disinformation during the 2024 Indonesian presidential election. Given the unique context of the dataset consisting of tweets related to the election, the author has chosen to explore the performance of three pre-trained transformer-based models, including BERT, to determine the most effective approach for this particular study[7].

By leveraging the capabilities of these transformer models, which involve both encoder and decoder processes, the study seeks to contribute to the development of more sophisticated and accurate disinformation detection systems [8]. Understanding the intricacies of how false information spreads on social media, and identifying the most successful approach in classifying tweets related to the election, can provide valuable insights into addressing disinformation in Indonesia's digital landscape. Ultimately, the findings of this research can play a vital role in safeguarding public discourse and ensuring a more informed and vigilant society during critical events like elections.

In this study, the best method based on previous research will be attempted by the author. From the mentioned studies, it can be concluded that transformer models like BERT outperform other approaches. Based on the research on hoax news detection, which achieved the best results for classification, the author decided to use transformer models like BERT [6]. However, unlike previous studies, since the dataset used in this research consists of tweets related to the 2019 Indonesian presidential election, the author will utilize three pre-trained transformer-based models in hopes of determining which model performs the best in this study.