

## 1. Introduction

The existence of social media, which supports freedom of expression, is often abused to make inappropriate statements aimed at individuals or groups. One form of social media abuse is engaging in misogynist behavior. Misogyny itself means hatred of women [1]. Based on *Catatan Tahunan Komnas Perempuan* in 2021, it is known that cases of Online Gender-Based Violence reported to *Komnas Perempuan* in Indonesia during 2020 increased from 241 cases to 940 cases. Meanwhile, Online Gender-Based Violence cases reported to *Lembaga Layanan* during 2020 increased from 126 to 510 cases [2]. The number of cases, which continues to rise, as well as the possibility that many cases go unreported, shows the importance of detecting misogyny to protect women from discrimination and violence on social media. One of the most widespread social media in Indonesia is Twitter. The number of Twitter users reached 14,050,000 in January 2021 [3].

Research has been conducted into detecting misogyny and sexism in different languages. Several studies on the AMI community task aimed to identify and classify misogyny in English and Italian [4]. The best results for identifying misogyny were obtained by Saha et al. [5] with an accuracy of 70.4% using the concatenation of sentence embeddings, TF-IDF vector, and Bag of Words vector into logistic regression classifiers. The research of Parikh et al. [6] performs sexism classification for accounts sharing sexism experiences in online forums by comparing machine learning methods to deep learning architectures such as CNN, LSTM, and CNN-LSTM. Based on this study, the accuracy achieved with the LSTM-based architecture exceeds the accuracy of other methods, which is 63%. In addition, Samghabadi et al. [7] identified aggression and misogyny in English, Hindi, and Bengali using BERT. The accuracy obtained for identifying misogynistic aggression was 85.5% in English, 80.42% in Hindi, and 92.42% in Bengali.

In the meantime, various studies have been carried out in Indonesian to uncover hate speech. However, there is no study that focuses on detecting misogyny. With this in mind, we proposed misogynist speech detection in the Indonesian Language. The system is performed using LSTM for the classifier and BERT for the embeddings. The combination of BERT with LSTM is aimed to give each word a different vector representation based on the context of the data.

Major contributions of this research is to analyze the performance of BERT Embeddings with LSTM in detecting misogyny speech. We compared the result with baseline methods, such as Logistic Regression and Convolutional Neural Networks. Other than that, we also compared the performance of the algorithms with BERT Embeddings and without BERT Embeddings.

The remains of the paper are organized as follows. Chapter 2 discusses related work about misogyny detection. Chapter 3 describes the methodology of the proposed method. Chapter 4 explains the results of the experiments. At last, chapter 5 concludes this work and gives suggestions for future works.