ABSTRAK

Analisis emosi dalam teks merupakan salah satu cabang penting dalam *Natural Language Processing* (NLP), khususnya dalam memahami pesan tersirat pada pidato politik. Pidato politik tidak hanya menyampaikan informasi, tetapi juga emosi yang bertujuan membentuk opini publik. Penelitian ini memanfaatkan model *RoBERTa* untuk mengklasifikasikan emosi dalam pidato Presiden Joko Widodo selama periode 2014–2024. Data diperoleh dari transkrip video resmi, menghasilkan 2952 paragraf yang telah dilabeli secara otomatis menggunakan model *pre-trained `Indonesian-roberta-base-emotion-classifier`*. Proses *preprocessing* dilakukan melalui tahapan *cleaning, lowercasing*, tokenisasi, dan *one-hot encoding*. Selanjutnya, model *RoBERTa* dilakukan *fine-tuning* menggunakan *batch size* 16, *learning rate* 1e-5, dan 3 *epoch*. Evaluasi performa dilakukan dengan *confusion matrix* dan metrik akurasi, presisi, *recall*, dan *F1-score*. Hasil menunjukkan model mampu mengklasifikasikan lima emosi (*anger*, *fear*, *happy*, *love*, dan *sadness*) dengan akurasi 90%. Temuan ini menunjukkan bahwa *RoBERTa* efektif digunakan untuk klasifikasi emosi dalam teks pidato politik berbahasa Indonesia dan memberikan kontribusi terhadap pengembangan NLP dalam konteks komunikasi politik.

***Kata kunci**: Bahasa Indonesia, Fine-Tuning, Klasifikasi*

ABSTRACT

Emotion analysis in texts is a significant branch of Natural Language Processing (NLP), particularly in understanding implicit messages in political speeches. Political speeches not only convey information but also express emotions to shape public opinion. This study utilizes the RoBERTa model to classify emotions in the speeches of President Joko Widodo during the 2014–2024 period. The dataset was obtained from official video transcripts, resulting in 2952 paragraphs labeled automatically using the pre-trained model `Indonesian-roberta-base-emotion-classifier`. The preprocessing stages included text cleaning, lowercasing, tokenization, and one-hot encoding. The RoBERTa model was fine-tuned using a batch size of 16, a learning rate of 1e-5, and 3 epochs. Performance evaluation was conducted using a confusion matrix and metrics such as accuracy, precision, recall, and F1-score. The results show that the model can classify five emotions (anger, fear, happy, love, and sadness) with 90% accuracy. These findings demonstrate that RoBERTa is effective for emotion classification in Indonesian political speech texts and contributes to the development of NLP in political communication contexts.

Keywords: *Indonesian, Fine-Tuning, Emotional Classification, Natural Language Processing, Political Speech, RoBERTa*