# ABSTRACT

Facial recognition is an important aspect of security and personal identification systems. In the context of a global pandemic, face recognition without a mask has become increasingly relevant to ensure compliance with health protocols. This research aims to develop a facial recognition system that can efficiently detect the presence of a mask on the face using a Convolutional Neural Network (CNN).

The proposed method uses a large dataset of unmasked faces to train a CNN model. The optimized CNN architecture is designed to extract facial features with high precision, enabling accurate facial recognition even in the absence of a mask. Model training is carried out by utilizing transfer learning techniques to improve performance and convergence speed.

System evaluation was carried out using a test dataset that included variations in facial poses, expressions, and lighting conditions. Experimental results show that the proposed CNN model can recognize faces without masks with a high success rate. Additionally, the system provides fast and reliable responses, meeting the needs of facial recognition applications in various environments.

The research was carried out in the EvConn Telkom University lab room to obtain images for training. After that it can be processed into a training model. Only then is this training model used for the actual face recognition process. This research obtained the highest level of accuracy at a distance of 60 cm with an accuracy of 88,66%.

Keywords: Convolutional Neural Network, Python, Face Recognition