

## **ABSTRACT**

*This study aims to develop an automatic facial expression classification system as a supporting tool for psychologists, with a focus on detecting anger and fear expressions. The main problem addressed is the need for a system capable of analysing emotional responses objectively, reducing reliance on subjective manual observations. The system is built using the YOLOv11 algorithm and trained on publicly available datasets that have been processed and optimized through the Roboflow platform. The user interface is developed using the Tkinter library to facilitate interaction between the user and the system. The system was tested on several university students and evaluated by two professional psychologists to assess its accuracy and usability. The results indicate that the system can detect facial expressions in real-time with good accuracy under optimal lighting and frontal face positions. However, the accuracy decreases under low-light conditions or when the face is captured from an angle. Expert evaluations concluded that the system shows potential as a non-verbal observation tool, but it is not yet recommended for clinical psychological assessments. With further improvements in data quality and model performance, this system has great potential for broader applications in psychology, education, security, and human-computer interaction.*

*Keywords: Facial expression, YOLOv11, automatic classification, psychology, emotion detection.*