

UNIVERSITI TEKNOLOGI MARA

**REAL-TIME FACIAL EMOTION
RECOGNITION AND MOOD
CORRECTION WITH SPOTIFY
INTEGRATION**

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ABSTRACT

This project presents the development of a mobile application aimed at enhancing driver well-being through real-time facial emotion recognition and mood correction. The application utilizes deep learning-based emotion recognition, employing the MobileNetV2 convolutional neural network, to identify four primary emotions - sad, happy, angry, and neutral - in drivers. Upon recognizing negative emotional states, such as anger and sadness, the app responds by playing music from Spotify to uplift the driver's mood. The successful implementation of the mobile app showcases its potential to mitigate negative emotions in drivers, providing a novel approach to promote emotional well-being during driving experiences. Accuracy obtained from controlled environment testing using python coding snippets proved promising with over 90% accuracy across all four emotions. However, the paper also acknowledges certain limitations, including the app's limited emotional spectrum, individual variability in emotional expression, and the challenge of distinguishing genuine anger from naturally angry resting faces. Additionally, technical constraints related to CNN architecture and hardware requirements are discussed.

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