

UNIVERSITI TEKNOLOGI MARA

**MENTAL HEALTH DETECTION
BASED ON FACIAL RECOGNITION
USING CNN ALGORITHM**

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ABSTRACT

The vital necessity for novel diagnostic approaches emerges because millions around the world suffer from mental health disorders including depression and anxiety. The limitations of traditional diagnostic procedures using clinical interviewing and self-report methods require improved advanced technical diagnostic approaches. The proposed system uses facial recognition paired with Convolutional Neural Networks (CNN) to analyze faces which identifies three different mental states. Researchers drew data from Kaggle while applying preprocessing techniques for normalization and augmentation before training a CNN model to recognize subtle facial expressions of mental health disorders. The system evaluation showed excellent performance through which the prototype reached over 99% precision rate for certain classification categories. Research findings show CNN technology working with facial recognition methods has great potential to improve mental health diagnosis systems. The research findings highlight the innovative power of this system to transform mental health evaluation through its dependable, noninvasive early identification and ongoing monitoring capabilities which allow healthcare providers to supply precise and timely therapeutic interventions.

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