

20MCA246 MAIN PROJECT

ABSTRACT

Submitted By

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Project Title : Deepfake video detection using Customized CNN.

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Abstract approved : Yes / No

Name and Signature of Guide with date : Dr. Vineetha S

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Any Other Remarks :

Name and Signature of Coordinators with date:

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ABSTRACT

Deepfake technology is increasingly being used to create dangerous material such as fake movies, rumors, and false news, posing security concerns. Research on active detection and prevention technologies is essential. This project proposes a solution for the problem in the form of a machine learning model which detects deepfake videos using CNN. CNNs are computationally intensive and require significant amounts of processing power, which can be a challenge for resource-limited devices such as mobile phones and embedded systems. The Kaggle dataset can be used to train and test the model. Training, validation, testing subsets are included in this dataset. The method includes frames extraction, face feature extraction, data preprocessing, and classification phases to determine whether the images in the video are real or fake. Accuracy, loss, and the area under the receiver operating characteristic (ROC) curve can be used to characterize the data. The CNN model can be trained on the extracted features from the faces in the frames, and the classification phase determines whether an image is authentic or manipulated. The customized CNN model compares with the other two models in terms of accuracy, sensitivity, and specificity. The two existing methods are CNN and MLP-CNN. The project can help in developing active detection and prevention technologies to combat the rising misuse of deepfake technology. The importance of this work lies in its contribution to the improvement of deepfake video detection techniques, which will be essential in reducing the potential harm deepfake technology may cause to society. The ability to accurately detect deepfake videos will help prevent the spread of false information and protect individuals and organizations from harm. The aim of the proposed method effectively detects and classifies deepfake video images with high accuracy.