**A CNN Based Approach to Detect Deepfake**

Abstract

Deepfakes are an emerging threat to our society as they can be used to manipulate and deceive people with false information. Deepfake detection is a challenging task, and traditional methods are limited in their effectiveness. Therefore, in this study, we propose a deep learning-based approach for Deepfake prediction using convolutional neural networks (CNN). Our proposed method involves training a CNN model on a dataset of real and fake images obtained in Kaggle. Prior to it, we performed transfer learning using EfficientNetB0 which has already been trained on the ImageNet dataset. The model learns to distinguish between real and fake images by identifying patterns and features that are unique to each class. The results show that our proposed CNN-based approach performs decently in predicting fake images. We are aiming forward in achieving better results.

Tentative work plan:

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| **Work Plan** | **Time Period** |
| Preparing Problem Statement | 10/03/23 – 17/03/23 |
| Collecting the research paper in the problem domain | 17/03/23 - 28/04/23 |
| Prepare dataset | 17/03/23 - 01/04/23 |
| Pre-processing of image data | 01/04/23 – 10/04/23 |
| Train CNN model with dataset | 10/04/23 – 28/04/23 |
| Results analysis and comparison | 10/04/23 – 28/04/23 |