In this paper the author proposed a method to classify manipulated images by using Convolutional Neural Networks using a large-scale dataset of manipulated and original images. The manipulation was done with the use of four different techniques.

The database that they proposed to evaluate their work was the FaceForensic++ dataset. In order to assemble the dataset the authors used 1000 videos taken from the internet and applied the four state-of-the-art face manipulations such as Face2Face, FaceSwap, Deep Fakes and Neural Textures.

Once the manipulations were done the frames were postprocessed using H.264 codec of three different quality levels that are found on the internet. For the high quality videos, HQ23 was used while for low quality frames LQ was used with parameter of 40.

The dataset was split into 720,140 and 140 of training set, validation set and test set before being passed on to the classification pipeline. While the evaluations were carried out using various state-of-the art methods, it was found that the XceptionNet out performs all the other variants in classifying real and manipulated images. The network was able to achieve 99.26% accuracy on raw data,95.73% to 80.00% on low quality data.