Methods of detection of machine learing altered images

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Relevant

Figure 1: Image known as "Balenciaga Pope"

Funny

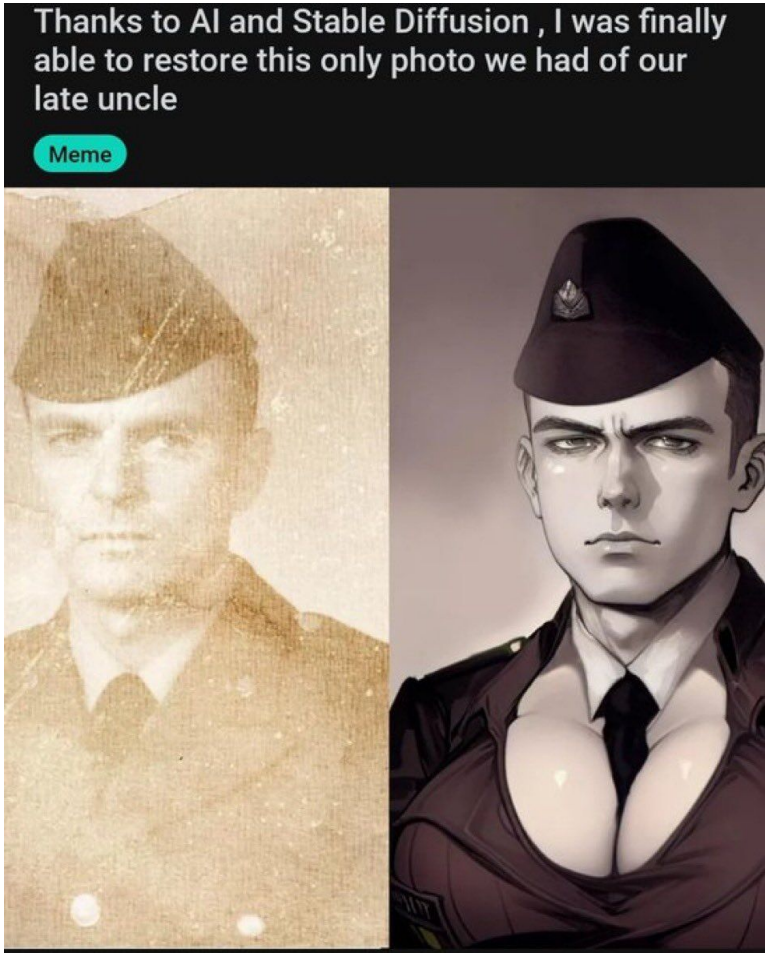

Figure 2: Unsuccessful try to restore image with stable diffusion

Figure 3: Meme from that time

Tackling actual problem

Figure 4: Hilary Clinton deep faked on photo

Tackling actual problem

Figure 5: Fake image of Donald Trump being arested

FaceForensics++

Figure 6: Visualization of FaceForensics++. Source: [1]

ManTra-Net

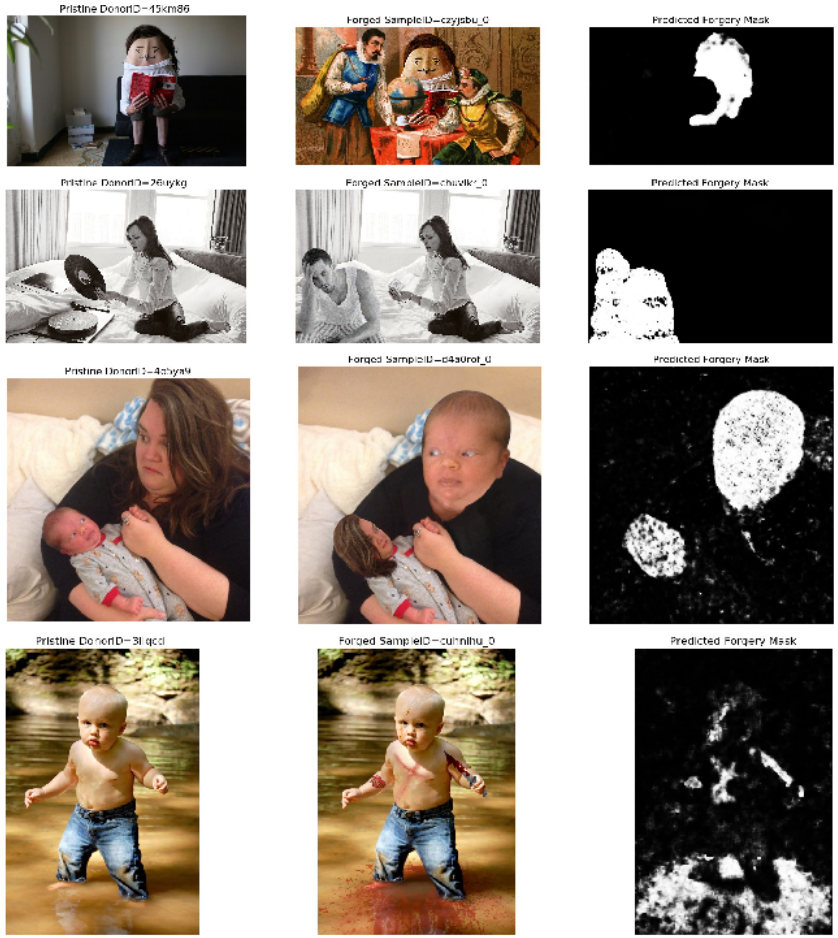

Figure 7: Results of Mantra-Net. Source: [2]

Conclusion

Detection of ML altered images was possible at that point in time.

Bibliography I

A. Rossler, D. Cozzolino, L. Verdoliva, C. Riess, J. Thies, and M. Nießner, "Faceforensics++: Learning to detect manipulated facial images," in *Proceedings of the IEEE/CVF international conference on computer vision*, pp. 1–11, 2019.

Y. Wu, W. AbdAlmageed, and P. Natarajan, "Mantra-net: Manipulation tracing network for detection and localization of image forgeries with anomalous features," in *2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 9535–9544, June 2019.