

## **1 Introduction**

With the development of deep learning, great strides have been made in image processing technology. One of these techniques is called Deepfake, which is used to create incredibly realistic fake images of replacing the face of a source image with a target face. Facial information plays a huge role in our lives, so once

Deepfake is abused and malicious spread, it will pose a great threat to the personal information security and social stability. In particular, the birth of Generative Adversarial Network(GAN) [?] makes fake images more difficult to distinguish. Therefore, it is urgent to design efficient and accurate methods to detect these Deepfake content.

---

2022年第三届CSIG中国媒体取证与安全大会  
The 3rd CSIG Chinese Conference on Media Forensics and Security

---

## Frequency Domain Filtered Residual Network for Deepfake Detection

NAME Name-Name<sup>1)</sup> NAME Name<sup>2)</sup> NAME Name-Name<sup>3)</sup> \*字体为5号Times new Roman\*Name

<sup>1)</sup>(Department of \*\*\*\*, University, City ZipCode, China) \* 字体为6号Times new Roman\* Depart.Correspond

<sup>2)</sup>(Department of \*\*\*\*, University, City ZipCode)\*中国不写国家名\*

<sup>3)</sup>(Department of \*\*\*\*, University, City ZipCode, country)\*外国写国家名\*

### Abstract

The emergence and development of deep face forgery technology make the authenticity of image and video content cannot be guaranteed.

**Keywords** Deepfake detection; neural networks; wavelet transform; frequency domain features; feature fusion