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## **A Survey: Deep Fake Detection**

Vishvajeet Chandanshiv, Narayan Ekhande, Radha Lohar, Rahul V. Dagade Department of Computer Engineering Smt. Kashibai Navale College of Engineering, Vadgaon, Pune, India SPPU Pune, India

Abstract: This research addresses the pressing need for effective deep fake detection in both image domains, employing advanced deep learning methodologies. Deep fakes, which encompass the manipulation and fabrication of digital content, pose significant challenges to the authenticity and trustworthiness of media. In this study, we explore the evolving landscape of deep fake creation and the persistent challenges it presents. By leveraging state-of-the-art neural networks, natural language processing techniques, we aim to develop detection systems capable of distinguishing genuine from manipulated content. Our investigation also delves into the dynamic nature of deep fake detection, where creators continuously adapt their techniques. Staying one step ahead in this ongoing arms race is crucial for maintaining the integrity of digital content. In conclusion, this research contributes to the ongoing efforts to combat deep fake-related challenges, preserving public trust in the veracity of digital media. The development of reliable deep fake detection systems for both images is essential in an era where the line between reality and manipulation is increasingly blurred. [2].

Keywords: Deep fake, Detection, Deep Learning, Image, Authentication

