

Chapter 6

Social Media Forensics

ABSTRACT

In the digital age, social media has become a central facet of daily life, with billions of users across various platforms. Social media platforms such as Facebook, Twitter, Instagram, LinkedIn, and TikTok have revolutionized how people communicate, share information, and interact (Husain, Khan, & Siddiqui, 2023). While social media provides a rich source of information and connectivity, it also introduces unique challenges for forensic investigation. Social media platforms have become crucial sources of evidence in both criminal and civil investigations. Social media forensics is the specialized field dedicated to uncovering, preserving, and analyzing digital evidence from social media platforms. Given the increasing role of social media in both personal and professional spheres, the need for specialized forensic tools and methodologies is critical. This chapter explores social media forensics, covering its historical development, methodologies, legal and ethical considerations, tools and technologies, and case studies.

1. INTRODUCTION

In the digital age, social media has become a central facet of daily life, with billions of users across various platforms. Social media platforms such as Facebook, Twitter, Instagram, LinkedIn, and TikTok have revolutionized how people communicate, share information, and interact (Husain, Khan, & Siddiqui, 2023). While social media provides a rich source of information and connectivity, it also introduces unique challenges for forensic investigation. Social media platforms have become crucial sources of evidence in both criminal and civil investigations. Social media forensics is the specialized field dedicated to uncovering, preserving, and analyzing digital evidence from social media platforms. Given the increasing role of social media in both personal and professional spheres, the need for specialized forensic tools and methodologies is critical. This chapter explores social media

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forensics, covering its historical development, methodologies, legal and ethical considerations, tools and technologies, and case studies.

2. EVOLUTION OF SOCIAL MEDIA FORENSICS

- **Early Digital Forensics:** The origins of digital forensics trace back to the early days of computer technology, focusing initially on hard drives and traditional computing devices. Early digital forensic investigations involved recovering data from hard drives, floppy disks, and other physical media. The field was primarily concerned with ensuring the integrity and authenticity of data, which laid the foundation for contemporary forensic practices.
- **Advent of social media:** As the internet evolved, so did the scope of digital forensics, eventually encompassing a wide range of online activities and platforms. Social media began to gain prominence in the early 2000s with platforms such as Friendster, MySpace, and later Facebook and Twitter. These platforms introduced new types of digital evidence, including user-generated content, social interactions, and metadata. The proliferation of social media created a new paradigm for digital forensics, necessitating the development of specialized techniques for handling and analyzing data from these platforms (Husain M. S., 2019).
- **Defining Social Media Forensics:** Social media forensics involves the application of forensic principles to recover, analyze, and present evidence from social media platforms. It encompasses the identification, preservation, and examination of data originating from sites such as Facebook, Twitter, Instagram, and LinkedIn. The goal is to extract reliable and admissible evidence that can support investigations or legal proceedings (Khan, Husain, & Khan, 2018) (Adnan, Ariffin, Hanafi, Husain, & Panessai, 2021).
 - o **Goals of Social Media Forensics:**

As shown in Figure 1 the main objectives of social media forensics are: reconstruction of past events, identifying criminal activities, locating hidden networks, and analyzing public sentiments regarding an event/policy (Bokolo & Liu, 2024).

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