

## Investigating Cloud Forensics: Challenges, Tools, and Practical Case Studies

**Authors :** Noha Badkook, Maryam Alsubaie, Samaher Dawood, Enas Khairallah

**Abstract :** Cloud computing has introduced transformative benefits in data storage and accessibility while posing unique forensic challenges. This paper explores cloud forensics, focusing on investigating and analyzing evidence from cloud environments to address issues such as unauthorized data access, manipulation, and breaches. The research highlights the practical use of opensource forensic tools like Autopsy and Bulk Extractor in realworld scenarios, including unauthorized data sharing via Google Drive and the misuse of personal cloud storage for sensitive information leaks. This work underscores the growing importance of robust forensic procedures and accessible tools in ensuring data security and accountability in cloud ecosystems.

**Keywords :** cloud forensic, tools, challenge, autopsy, bulk extractor

**Conference Title :** ICCSCIT 2025 : International Conference on Computer Science, Cybersecurity and Information Technology

**Conference Location :** Jeddah, Saudi Arabia

**Conference Dates :** February 17-18, 2025