



# DIGITAL INVESTIGATION

The International Journal of Digital Forensics & Incident Response

## AUTHOR INFORMATION PACK

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### DESCRIPTION

*Digital Investigation* covers a broad array of subjects related to crime and security throughout the computerized world. The primary pillar of this publication is digital evidence, with the core qualities of provenance, integrity and authenticity.

This widely referenced publication promotes innovations and advances in utilizing digital evidence for legal purposes, including criminal justice, incident response, cybercrime analysis, cyber-risk management, civil and regulatory matters, and privacy protection. Relevant research areas include forensic science, computer science, data science, artificial intelligence, and smart technology.

This journal is used by investigative agencies and forensic laboratories, computer security teams, practitioners, researchers, developers, and lawyers from industry, law enforcement, government, academia, and the military to share their knowledge and experiences, including current challenges and lessons learned in the following areas:

**Research and development:** Novel research and development in forensic science, computer science, data science, and artificial intelligence applied to digital evidence and multimedia. New methods to deal with challenges in digital investigations, including applied research into analysing digital evidence and multimedia, exploiting specific technologies, and into preparing for and responding to computer security incidents.

**Cyber-criminal investigation:** develop new methods of online investigation and analysis of financially motivated cyber-crime such as banking Trojans, phishing, ransomware and other forms of cyber-fraud. In addition, researching future criminal activity involving peer-to-peer payments and crypto currencies.

**Cyber-risk management:** Improved ways of using digital evidence to address security breaches involving information systems, methods to find zero day attacks and to perform cyber threat intelligence. The techniques and findings of digital investigations are essential in drawing post-incident conclusions, which are vital feedback components of the security policy development process, and managing risk appetite.

**Case Notes:** Brief investigative case studies with practical examples of how digital evidence is being used in digital investigations, forensic analysis, and incident response. Case Notes can also describe current challenges that practitioners are facing in cybercrime and computer security, highlighting areas that require further research, development or legislation. The format for Case Notes is simple

and short: case background, any technical or legal challenges, the digital evidence involved, processes and/or tools used, and outcomes (e.g., solutions, barriers, need for R&D).

**Scientific practices:** Novel approaches to strengthening the scientific foundation and rigor of digital investigations, and to increasing the reliability of and confidence in processes, analysis methods, results, and conclusions involving digital evidence.

**Effective practices:** Studies that assess new practices in digital investigations and propose effective approaches to handling and processing digital evidence.

**Survey papers:** Discussion of current methods and future needs relevant to digital investigations, including analysing digital evidence and multimedia from computers, smart technology, mobile phones, memory, malware, network traffic, as well as systems that support enterprises, telecommunications, and satellites. In addition, advanced approaches to analysing digital evidence and multimedia, including novel applications of artificial intelligence and data analytics.

**Tool reviews:** Evaluation and comparison of specialized software and hardware used to preserve, survey, examine, analyse or present digital evidence and multimedia, deepening our understanding of specific tools, and highlight any needed enhancements.

**Future challenges:** Analysis of new technologies, vulnerabilities and exploits which may create opportunities for criminality and/or computer security incidents, but which require further work in order to determine how their use can be investigated and the evidential opportunities they may create.

**Registered reports:** Studies that assess methods critically, and evaluating the reliability, statistical power, and reproducibility of results. Such reports can include tests and experiments with negative results, not just positive.

**Legal analysis and updates:** Carefully considered commentary by legal experts on recent cases involving digital evidence, forensic applications and computer security risk management, relevant legal developments, privacy issues, and legislative limitations.

**Evidence accessibility:** exploring safe, fair, and feasible methods of acquiring digital evidence from protected sources such as DRM, encrypted traffic, encrypted storage, and locked proprietary devices, while taking individual privacy and ethical aspects into consideration.

## AUDIENCE

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Digital Investigation will be essential reading for: Auditors, Information Security Officers, Forensic Accountants, Information Systems Managers, Independent Investigators, Lawyers, Fraud Examiners, Law Enforcement Officials, Systems and Data Security Analysts.

## IMPACT FACTOR

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## GUIDE FOR AUTHORS

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### INTRODUCTION

*Digital Investigation* is an international practitioner & research journal, and offers:

- A platform for pioneering peer-reviewed research papers
- Best-practice reports from the real experiences of investigators and lawyers
- New developments in the field of digital forensic science
- The latest proven methodologies being applied by the community

The journal brings together the growing global community interested in digital forensics, encompassing law enforcement, research, corporate information security, legal professionals and government.

#### *Types of Paper*

Original submissions on all digital forensic topics are welcomed, especially those of practical benefit to the investigator.

Papers are welcomed from the following categories:

#### **Research:**

Theoretical - Discovery and experimentation of digital forensic principles.

Applied - Tailoring of "agreed upon" principles into procedures that can be easily implemented for conducting network, computer and software forensics, to build a corroborated chain of evidence.

#### **Practice:**

Methods and tools for conducting effective digital investigations

#### **Legal:**

Legislative developments and limitations, new defences, and privacy

#### **Standards, Policy & Ethics:**

Overarching considerations, accreditation and certification

#### **Submission checklist**

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

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*Graphical Abstracts / Highlights files* (where applicable)

*Supplemental files* (where applicable)

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- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
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### *Introduction*

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

### *Material and methods*

Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

### *Theory/calculation*

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

### *Results*

Results should be clear and concise.

### *Discussion*

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

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The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

### **Essential title page information**

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
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### **Abstract**

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

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Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum

of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view [Example Graphical Abstracts](#) on our information site.

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#### *Keywords*

Immediately after the abstract, provide a list of 5-10 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, "and", "of"). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

#### *Abbreviations*

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