

Special Issue on Privacy Protection and Security in Multimedia Processing and Artificial Intelligence

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CALL FOR PAPERS

In the information era, a huge amount of digital media – such as texts, images, audios, videos, etc. – is being generated and transmitted every second. Multimedia has been applied in many fields of human society: music, films, and video games constitute the majority of our daily entertainments; medical images help doctors to make a more accurate diagnosis, and fingerprints and facial images are used to identify people for all kinds of applications. Artificial intelligence (AI) technologies greatly enhance our ability to analyse, process, and utilize multimedia. Both multimedia processing and AI technologies are quite computation-intensive and storage-intensive. Fortunately, rapidly developing cloud computing can provide us a promising way to deal with these kinds of demanding tasks; the users can simply outsource the storage, computation, and any other tasks to the powerful cloud server to enjoy efficient and ubiquitous services.

However, privacy and security need more attention. Firstly, the cloud server could not be fully secure or trustworthy to users. Secondly, AI technologies can also be attacked. For example, some recent research showed that Deep Neural Networks could be fooled by modifying only one pixel in the sample image. Finally, AI technologies can also be misused, which leads to potential risks. Many technologies have been utilized to deal with security and privacy protection problems. Despite the advances made in the last decade, the application of such techniques in real life is still hindered by many factors, including lack of efficiency, lack of security under challenging security models (such as in the presence of malicious users), and the necessity of adapting the available tools to the diverse requirements encountered in different applications.

This Special Issue intends to collect high-quality research and review articles concerning privacy protection and security in multimedia processing and artificial intelligence fields.

Potential topics include but are not limited to the following:

- ▶ AI security
- ▶ Privacy-preserving classification
- ▶ Processing of encrypted multimedia
- ▶ Privacy-preserving data mining
- ▶ Feature extraction with privacy protection
- ▶ Optimization algorithm with privacy protection
- ▶ Secure multimedia distribution in cloud computing
- ▶ Secure multi-party computation in cloud computing
- ▶ Multimedia forensics in the encrypted domain
- ▶ Privacy-preserving processing of biomedical signals
- ▶ Privacy protection in smart metering applications
- ▶ Secure access of multimedia
- ▶ Security and privacy in online social networks
- ▶ Searchable encryption

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?specialIssue=509981>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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