Title:

Forensics of Multimedia Covert Communication

Abstract:

Multimedia covert communication and the special status of forensics technology in the field of information security have become the unremitting power of researchers in depth research. In recent years, the government, academic and industrial circles in many countries have paid great attention to this field. Multimedia covert communication technology concentrates on embed secret information into the digital image, audio, video and so on, and pass through the mail, WeChat, micro-blog, online forums and other public channel. This kind of communication conceals the existence of secret information and is very fraudulent. In recent years, multimedia covert communication has become a hotspot in the field of information security and network security. The main purpose of multimedia covert communication forensics technology is to discover the covert communication behavior, extract hidden secret information, and locate the sender/receiver of the covert communication. Therefore, the research of multimedia covert communication forensics technology can provide technical support for combating illegal covert communication and maintaining network information security.

This workshop will bring together workshop organizers, platform providers, and participants to discuss the latest research on the applied and theoretical topics of multimedia covert communication.

Scope and Topics:

- ✧ Formal methods of computer and network forensic
- ✧ Digital forensics surveillance technology and procedure
- ✧ Software recognition and reverse analysis
- ✧ IP geolocation
- ✧ Security protocols and protocol analysis
- ✧ Network attack source tracing technologies
- ✧ Network covert channel detection
- ✧ CAPTCHA recognition
- ✧ Steganography and steganalysis
- ✧ Watermarking and detection
- ✧ Multimedia analysis for forensics

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Xiangyang Luo received his B.S., M.S., and Ph.D degrees from the State Key Laboratory of Mathematical Engineering and Advanced Computing, Zhengzhou, China, in 2001, 2004, and 2010, respectively. He is the author or co-author of more than 100 refereed international journal and conference papers. He is currently a professor of the State Key Laboratory of Mathematical Engineering and Advanced Computing. His research interests are image steganography and steganalysis technique.

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Yun-Qing Shi has joined the Department of Electrical and Computer Engineering at the New Jersey Institute of Technology (NJIT), Newark, NJ since 1987, and is currently a professor there. He obtained his B.S. degree and M.S. degree from the Shanghai Jiao Tong University, Shanghai, China; his Ph.D. degree from the University of Pittsburgh, PA. His research interests include multimedia data hiding, forensics and security, visual signal processing and communications, applications of image processing, computer vision and pattern recognition to industrial automation and biomedical engineering, theory of multidimensional systems and signal processing.
He is an author/coauthor of more than 300 papers in his research areas. He has edited nine issues of LNCS Transactions by Springer, and more than 10 proceedings of international workshops and conferences. He holds 29 awarded US patents. He is an IEEE Fellow and associate editor of IEEE Transactions.

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Jinwei Wang was born in Inner Mongolia, China, in 1978. He received the B.A.Sc. in automatic control from Inner Mongolia Electric Power College in 2000. He was a teaching assistant at Inner Mongolia University of Technology from July 2000 to September 2002. He received the Ph.D. student in information security at Nanjing University of Science & Technology in 2007 and was a visiting scholar in Service Anticipation Multimedia Innovation (SAMI) Lab of France Telecom R&D Center (Beijing) in 2006. He worked as a senior engineer at the 28th research institute, CETC from 2007 to 2010. He worked as a visiting scholar at New Jersey Institute of Technology, NJ, USA from 2014 to 2015. Now he works as a professor at Nanjing University of Information Science and Technology. His research interests include multimedia forensics, multimedia encryption and multimedia watermarking. He has published more than 60 papers, hosted and participated in more than 10 projects.

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