Seventeenth Annual IFIP WG 11.9 International Conference on Digital Forensics
Fully Virtual (All Times U.S. Eastern Standard Time: UTC-5)
February 1-2, 2021

February 1, 2021 (Monday)

12:00pm - 12:10pm: Welcoming Remarks and Logistics

12:10pm - 01:10pm: Keynote Lecture
The Questions of Digital Forensics – Cues from Forensic Science
Martin Olivier, Professor of Computer Science, University of Pretoria, Pretoria, South Africa

01:10pm - 02:10pm: Session 1
Chair: Gilbert Peterson, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

A Digital Forensic Acquisition Kill Chain
Gunnar Alendal, Geir Olav Dyrkolbotn and Stefan Axelsson
Norwegian University of Science and Technology, Gjovik, Norway
Stockholm University, Stockholm, Sweden

Empirical Evaluation of Network Traffic Analysis Using Approximate Matching Algorithms
Thomas Göbel, Frieder Uhlig and Harald Baier
Darmstadt University of Applied Sciences, Darmstadt, Germany
Technical University of Darmstadt, Darmstadt, Germany
Bundeswehr University Munich, Neubiberg, Germany

02:10pm - 02:30pm: Break

02:30pm - 04:00pm: Session 2
Chair: Mason Rice, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA

Using Parallel Processing to Reduce the Computation Time of a Digital Media Similarity Measure
Myeong Lim and James Jones
George Mason University, Fairfax, Virginia, USA

Insider Threat Detection Using Variational Graph Encoding
Yichen Wei, Kam-Pui Chow and Siu-Ming Yiu
University of Hong Kong, Hong Kong, China

Malicious Login Detection Using Long Short Term Memory with an Attention Mechanism
Yanna Wu, Fucheng Liu and Yu Wen
Chinese Academy of Sciences, Beijing, China

04:00pm - 04:20pm: Break

04:20pm - 05:50pm: Session 3
Chair: Suryadipta Majumdar, Concordia University, Montreal, Canada

Threat Intelligence Relation Extraction Using Distant Supervision and Neural Networks
Yali Luo
Chinese Academy of Sciences, Beijing, China

February 1, 2021 (Monday) (continued)

Political Movement Location Topicality Analysis Using Web Forum Data
Shengzhi Qin, Qiaokun Wen and Kam-Pui Chow
University of Hong Kong, Hong Kong, China

A Semi-Supervised Method for Detecting Malicious PDF Files
Jianguo Jiang, Nan Song, Min Yu, Kam-Pui Chow, Gang Li, Chao Liu and Weiqing Huang
Chinese Academy of Sciences, Beijing, China
University of Hong Kong, Hong Kong, China
Deakin University, Geelong, Australia

February 2, 2021 (Tuesday)

12:00pm - 01:00pm: Keynote Lecture
Technology as the Next Generation Insider
Nicole Beebe, Chair, Department of Information Systems and Cyber Security and Melvin Lachman Distinguished Professor in Entrepreneurship, University of Texas at San Antonio, San Antonio, Texas, USA

01:00pm - 02:00pm: Session 4
Chair: Stefan Axelsson, Stockholm University, Stockholm, Sweden

Enhancing Industrial Digital Forensics Analysis via Replication-Based Digital Twins
Marietheres Dietz, Ludwig Englbrecht and Günther Pernul
University of Regensburg, Regensburg, Germany

A Comparison of Attacks on Servers in the Darknet and the Clearnet
York Yannikos, Quang Anh Dang and Martin Steinebach
Fraunhofer Institute for Secure Information Technology, Darmstadt, Germany
Technical University of Darmstadt, Darmstadt, Germany

02:00pm - 02:20pm: Break

02:20pm - 03:50pm: Session 5
Chair: York Yannikos, Fraunhofer Institute for Secure Information Technology, Darmstadt, Germany

Leveraging the USB Power Delivery Implementation for Digital Forensic Acquisition
Gunnar Alendal, Geir Olav Dyrkolbotn and Stefan Axelsson
Norwegian University of Science and Technology, Gjovik, Norway
Halmstad University, Halmstad, Sweden

Security Auditing of Smart Home Devices
Suryadipta Majumdar, Daniel Bastos and Anoop Singhal
Concordia University, Montreal, Canada
Bosch Security Systems, Ovar, Portugal
National Institute of Standards and Technology, Gaithersburg, Maryland, USA

Indian Currency Database for Forensic Investigations
Saheb Chhabra, Gaurav Gupta, Garima Gupta and Monika Gupta
Indraprastha Institute of Information Technology Delhi, New Delhi, India
Ministry of Electronics and Information Technology, New Delhi, India
University of Delhi, New Delhi, India

03:50pm - 04:10pm: Break

04:10pm - 05:10pm: Session 6
Chair: Sujeet Shenoi, University of Tulsa, Tulsa, Oklahoma, USA

A Survey of Security Issues Related to Quick Response Codes
Pulkit Garg, Saheb Chhabra, Gaurav Gupta, Garima Gupta and Monika Gupta
University of Delhi, New Delhi, India
Indraprastha Institute of Information Technology Delhi, New Delhi, India
Ministry of Electronics and Information Technology, New Delhi, India

A Taxonomy of iCloud Forensic Tools
Anand Kumar Mishra, Emmanuel Pilli and Mahesh Govil
Malaviya National Institute of Technology, Jaipur, India