

2019 International Carnahan Conference on Security Technology (ICCST 2019)

**Chennai, India
1 – 3 October 2019**



**IEEE Catalog Number: CFP19ICR-POD
ISBN: 978-1-7281-1577-1**

**Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP19ICR-POD
ISBN (Print-On-Demand):	978-1-7281-1577-1
ISBN (Online):	978-1-7281-1576-4
ISSN:	1071-6572

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

Session I A - Performance Analysis of Security Technologies

Authors	Title	Page
Vladimír Smejkal, Boris Oniscenko, Jindrich Kodl and Petr Tesar	Influence of Hypoxia on the Stability of the Dynamic Biometric Signature	1
Daniela Buser, Yanik Sterchi and Adrian Schwaninger	Effects of Time on Task, Breaks and Target Prevalence on Screener Performance in a X-ray Image Inspection Task	7
Heinz Hertlein, Aladdin Ariyaeenia, Zoe Jeffrey and Soodamani Ramalingam	Effectiveness in the Realization of Speaker Authentication	13
Simon Attfield, Nallini Selveraj, Neesha Kodagoda, Peter Passmore and Elke Dunke	Patterns of Life Visualizations for Intelligence Analysis: Exploring Animation with POLAR	18
Anas Husseis, Judith Liu-Jimenez, Ines Goicoechea-Telleria and Raul Sanchez-Reillo	A Survey in Presentation Attack and Presentation Attack Detection	24
Shilpa Thakur and Ajay Singh	Ergodic Secrecy Capacity in Nakagami-m Fading Channels	37

Session I B - Network Security

Authors	Title	Page
Iman Sharafaldin, Arash Habibi Lashkari, Saqib Hakak and Ali A.Ghorbani	Developing Realistic Distributed Denial of Service (DDoS) Attack Dataset and Taxonomy	40
Vasu Sethia and Jeyasekar A.	Malware Capturing and Analysis using Dionaea HoneyPot	48
Nathezhtha Thangaraj, Sangeetha D and Vaidehi V	WC-PAD: Web Crawling based Phishing Attack Detection	52
Laya Taheri, Andi Fitriah Abdul Kadir and Arash Habibi Lashkari	Extensible Android Malware Detection and Family Classification Using Network-Flows and API-Calls	58
Purushotham Parthiban Parthy and Gowthamaraj Rajendran	Identification and prevention of social engineering attacks on an enterprise	66
S.Abijah Roseline, A.D.Sasisri, S.Geetha and C.Balasubramanian	Towards Efficient Malware Detection and Classification using Multilayered Random Forest Ensemble Technique	71
Lucindia Dupak and Subhasish Banerjee	Role of Bio-Inspired Algorithms for Designing Protocols in MANET- Review	77
Justin Joseph and Dr. Saumya Bhadauria	Cookie Based Protocol to Defend Malicious Browser Extensions	83

Session II A - Video Surveillance

Authors	Title	
Miguel Angel Ferrer, Moises Diaz, Cristina Carmona-Duarte and Réjean Plamondon	Generating Off-line and On-line Forgeries from Online Genuine Signatures	89
Rishu Raj, Soumya Michael and Femi David	Forest monitoring System through RFID and Tensorflow Object Detection	95
Barbara Corsetti, Raul Sanchez-Reillo Richard M. Guest and Marco Santopietro	Face Image Analysis in Mobile Biometric Accessibility Evaluations	99
Divya N	Image Specific Similar Target Detection in Aerial Images Using Gaussian Mixture Model	104
Ines Goicoechea-Telleria, Kiyoshi Kiyokawa, Anas Husseis, Judith Liu-Jimenez and Raul Sanchez-Reillo	Fingerprint Presentation Attack Detection: Multispectral imaging with a narrow-band camera using Bag of Features	109

Session II B - Security in IoT

Authors	Title	
Kirutika K, Vetriselvi V, Ranjani Parthasarathy and G. Subrahmanya Vrk Rao	Controller Monitoring System in Software Defined Networks using Random Forest Algorithm	115
Kwasi Boakye-Boateng and Arash Habibi Lashkari	Securing GOOSE: The Return of One-Time Pads	121
Padmashree M G, Arunalatha J S and Venugopal K R	HPAKE: Hybrid Precocious Authentication and Key Establishment in IoT	129
Gowthamaraj Rajendran, Ragul Nivash R S, Purushotham Parthiban Parthy, Balamurugan S	Modern security threats in the Internet of Things (IoT): Attacks and Countermeasures	135
Venkatesh Karuppiah, Pratibha Kalaichelvan, Suganya Annadurai and Lakshmi Kuppusamy	Reconfigurable Architecture to Speed-up Modular Exponentiation	141
Dillibabu Shanmugam, Suganya Annadurai, Vijayasathy Rajagopalan and Venkatesh Prasad T	Denial of Service Detection System on various platforms	147
Vincent M, Arumugam P and G.Prabhakara Rao	Interior Intrusion Detection System	159

Session III A - Authentication & Cloud Data Protection

Authors	Title	
Mohanaprakash T.A and Andrews J	Novel privacy preserving system for Cloud Data security using signature Hashing Algorithm	163
Lavanya Balaraja and Tamizh Thendral V	A novel data ciphering method for secure cloud storage	169
B.Basaveswara Rao, Suneetha Bulla, K Gangadhara Rao and K.Chandan	HRF (HTTP Request Filtering): A New Detection Mechanism of EDoS Attack on Cloud	174
Divyans Mahansaria and Uttam Kumar Roy	Secure Authentication for ATM transactions using NFC technology	181
Sarmila K B and Manisekaran S V	A Study on Security Considerations in IoT Environment and Data Protection Methodologies for Communication in Cloud Computing	186
Wendy Ponce-Hernandez, Ramon Blanco-Gonzalo, Raul Sanchez- Reillo and Judith Liu-Jimenez	Template protection approaches: Fuzzy Vault scheme	192

Session III B - Implementation of Security System

Authors	Title	
Sabbir Ahmed, Tamkin Mahmud Tan, Anna Mary Mondol, Zawad Alam, Noshin Nawal and Jia Uddin	Automated Toll Collection System Based on RFID Sensor	197
Roopa Ravish, Varun R Gupta, Nagesh K J, Amruth Karnam and Shanta Rangaswamy	Software Implementation of an Automatic Movable Road Barrier	200
Raul Garcia-Martin, Raul Sanchez-Reillo and J. Enrique Suarez-Pascual	Wrist Vascular Biometric Capture Using a Portable Contactless System	206
Michael Rhead, Soodamani Ramalingam, Rob Gurney, William E Martin and Andrew Jones	Implications of the Method of Construction of UK Number Plates for Infrared Reflectance and Camera Settings on ANPR Systems	212
Manthan Prajapati and Dharmesh Dave	Host-based Forensic Artefacts of Botnet Infection	217
Atieh Merikh Nejadasl and Mahmoud Chizari	Using finger for touchscreen devices; is it safe?	221
Shruthi K and Chinmayi Prasad Shivadatha	Android Device or a Privacy Compromise?	224