Table of Contents

A Comparative Evaluation of Automated Vulnerability Scans Versus Manual Penetration Tests on False-negative Errors Saed Alavi, Niklas Bessler, and Michael Massoth	1
A Taxonomy of Attacks via the Speech Interface Mary K. Bispham, Ioannis Agrafiotis, and Michael Goldsmith	7
Cyber Security Using Bayesian Attack Path Analysis Remish Leonard Minz, Sanjana Pai Nagarmat, Ramesh Rakesh, and Yoshiaki Isobe	15
CyberSDnL: A Roadmap to Cyber Security Device Nutrition Label Abdullahi Arabo	23
Prototype Orchestration Framework as a High Exposure Dimension Cyber Defense Accelerant Amidst Ever- Increasing Cycles of Adaptation by Attackers <i>Steve Chan</i>	28
Prototype Open-Source Software Stack for the Reduction of False Positives and Negatives in the Detection of Cyber Indicators of Compromise and Attack <i>Steve Chan</i>	39
Prediction of Underground Fire Behavior in South Sumatra: Using Support Vector Machine With Adversarial Neural Network Support Ika Oktavianti Najib	49
Countering an Anti-Natural Language Processing Mechanism in the Computer-Mediated Communication of "Trusted" Cyberspace Operations <i>Steve Chan</i>	56
Harnessing Machine Learning, Data Analytics, and Computer-Aided Testing for Cyber Security Applications <i>Thomas Klemas and Steve Chan</i>	63
A Multi-Agent System Blockchain for a Smart City Andre Diogo, Bruno Fernandes, Antonio Silva, Jose Carlos Faria, Jose Neves, and Cesar Analide	68
Threat Analysis using Vulnerability Databases - Matching Attack Cases to Vulnerability Database by Topic Model Analysis - Umezawa Katsuyuki, Mishina Yusuke, Wohlgemuth Sven, and Takaragi Kazuo	74
Reviewing National Cybersecurity Awareness in Africa: An Empirical Study Maria Bada, Basie Von Solms, and Ioannis Agrafiotis	78

Building A Collection of Labs for Teaching IoT Courses	
Xing Liu	

IoT-Based Secure Embedded Scheme for Insulin Pump Data Acquisition and Monitoring Zeyad A. Al-Odat, Sudarshan K. Srinivasan, Eman Al-Qtiemat, Mohana Asha Latha Dubasi, and Sana Shuja	90
A Methodology For Synthesizing Formal Specification Models From Requirements for Refinement-Based Object Code Verification Eman Al-Qtiemat, Sudarshan K. Srinivasan, Mohana Asha Latha Dubasi, and Sana Shuja	94
Static Stuttering Abstraction for Object Code Verification Naureen Shaukat, Sana Shuja, Sudarshan Sriniyasan, Shaista Jabeen, and Mohana Asha Latha Dubasi	102