Introduction to the Minitrack on Cyber Threat Intelligence and Analytics, HICSS 2019

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Abstract

With the digitalization of our society and the increasing focus on cyber security, advanced cyber threat intelligence and analytical techniques (e.g. threat intelligence, big data and machine learning techniques) are key to real-time detection and mitigation of cyber security incidents, and to the collection and analysis of cyber security incident related information. In this introduction article, we will describe the nine papers accepted in the 'Cyber Threat Intelligence and Analytics' mini-track.

1. Introduction

Cyber threat intelligence is increasingly important in our digitalized society, and on the radar of governments. This is partly evidenced by the interest in this mini-track, where there is a three-fold increase in the number of papers accepted from last year (i.e. three papers accepted in 2018 [1]).

The nine papers in this mini-track are as follows:

1. How Good is Your Data? Investigating the Quality of Data Generated During Security Incident Response Investigations [2]
2. A Social Network Analysis (SNA) Study On Data Breach Concerns Over Social Media [3]
3. Detecting Cyber Security Vulnerabilities through Reactive Programming [4]
4. Insight from a Docker Container Introspection [5]
5. Identifying Dynamic Security Threats in Multi-Component IoT Systems [6]
6. Comparison of Supervised and Unsupervised Learning for Detecting Anomalies in Network Traffic [7]
7. Investigating 3D Printer Residual Data [8]
8. Cross-Site Scripting (XSS) Detection Integrating Evidences in Multiple Stages [9]
9. Dimensional Reduction Analysis for Constellation-Based DNA Fingerprinting to Improve Industrial IoT Wireless Security [10]

2. References

[1] Kim-Kwang Raymond Choo and Ali Dehghantanha 2018. Introduction to the Minitrack on Cyber Threat Intelligence and Analytics. In Proceedings of 51st Hawaii International Conference on System Sciences (HICSS 2018). Available on https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1672&context=hicss-51

[2] George Grispos, William Bradley Glisson and Tim Storer 2019. How Good is Your Data? Investigating the Quality of Data Generated During Security Incident Response Investigations. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[3] Naga Vemprala and Glenn Dietrich 2019. A Social Network Analysis (SNA) Study On Data Breach Concerns Over Social Media. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[4] Ole Christian Moholth, Radmila Juric and Karoline Moholth McClenaghan 2019. Detecting Cyber Security Vulnerabilities through Reactive Programming. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[5] Thomas Watts, Ryan Benton, William Bradley Glisson and Jordan Shropshire 2019. Insight from a Docker Container Introspection. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[6] Isaac Shrestha and Matthew Hale 2019. Identifying Dynamic Security Threats in Multi-Component IoT Systems. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[7] Robert McAndrew, Stephen Hayne and Haonan Wang 2019. Comparison of Supervised and Unsupervised Learning for Detecting Anomalies in Network Traffic. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[8] Daniel Bradford Miller, Jacob Gatlin, William Bradley Glisson, Mark Yampolskiy and Jeffrey McDonald 2019. Investigating 3D Printer Residual Data. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[9] Jingchi Zhang, Yu-Tsern Jou and Xiangyang Li 2019. Cross-Site Scripting (XSS) Detection Integrating Evidences in Multiple Stages. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).

[10] Christopher M Rondeau, Michael A Temple, J Addison Betances 2019. Dimensional Reduction Analysis for Constellation-Based DNA Fingerprinting to Improve Industrial IoT Wireless Security. In Proceedings of 52nd Hawaii International Conference on System Sciences (HICSS 2019).