SciSec 2024 Program

The 6th International Conference on Science of Cyber Security
14-16 August 2024 | Copenhagen, Denmark

Day 1: August 14, 2024 (GMT+2, Room M1 - Meeting Center at DTU)

Zoom link: https://ntu-sg.zoom.us/j/5176983759?pwd=d05YaFBkalhHNFpxN3VLaEJhdmZ4Zz09

08:00 – 9:00 Registration

8:45 – 10:00 Welcome and Keynote I (Room M1)

10:00 – 10:20 Coffee Break

10:20 – 11:40 Session 1 Cybersecurity Awareness

Smart Home Cyber Insurance Pricing
Xiaoyu Zhang, Maochao Xu and Shouhuai Xu

Exploring the Effects of Cybersecurity Awareness and Decision-Making Under Risk
Jan Hörnemann, Oskar Braun, Daniel Theis, Norbert Pohlmann, Tobias Urban and Matteo Große-Kampmann,

Characterizing the Evolution of Psychological Factors Exploited by Malicious Emails
Theodore Longtchi and Shouhuai Xu

Characterizing the Evolution of Psychological Tactics and Techniques Exploited by Malicious Emails
Theodore Longtchi and Shouhuai Xu

11:40 - 13:30 Lunch

13:40 - 14:20 Panel Discussion

14:20 – 15:20 Session 2 Cryptography and Privacy

Performance Evaluation of Lightweight Cryptographic Ciphers on ARM Processor for IoT Deployments
Mohsin Khan, Dag Johansen and Håvard Dagenborg

SVSM-KMS: Safeguarding Keys for Cloud Services with Encrypted Virtualization
Benshan Mei, Wenhao Wang and Dongdai Lin

Integrating CP-ABE and Device Fingerprint into Federated Learning
Chunlu Chen, Rodrigo Roman, Kevin I-Kai Wang and Kouichi Sakurai

15:20 – 16:00 Coffee Break

16:00 – 17:40 Session 3 Intrusion Detection and Malware Analysis
GNNexPIDS: An Interpretation Method for Provenance-based Intrusion Detection Based on GNNExplainer
Ziyang Yu, Wentao Li, Xiu Ma, Xinbo Han, Baorui Zheng, Qiujian Lv, Ning Li and Weiqing Huang

LogSHIELD: A Graph-based Real-time Anomaly Detection Framework using Frequency Analysis
Krishna Roy and Qian Chen

FAF-BM: An Approach for False Alerts Filtering using BERT Model with Semi-supervised Active Learning
Dan Du, Yunpeng Li, Yiyang Cao, Yuling Liu, Guozhu Meng, Ning Li, Dongxu Han and Huamin Feng

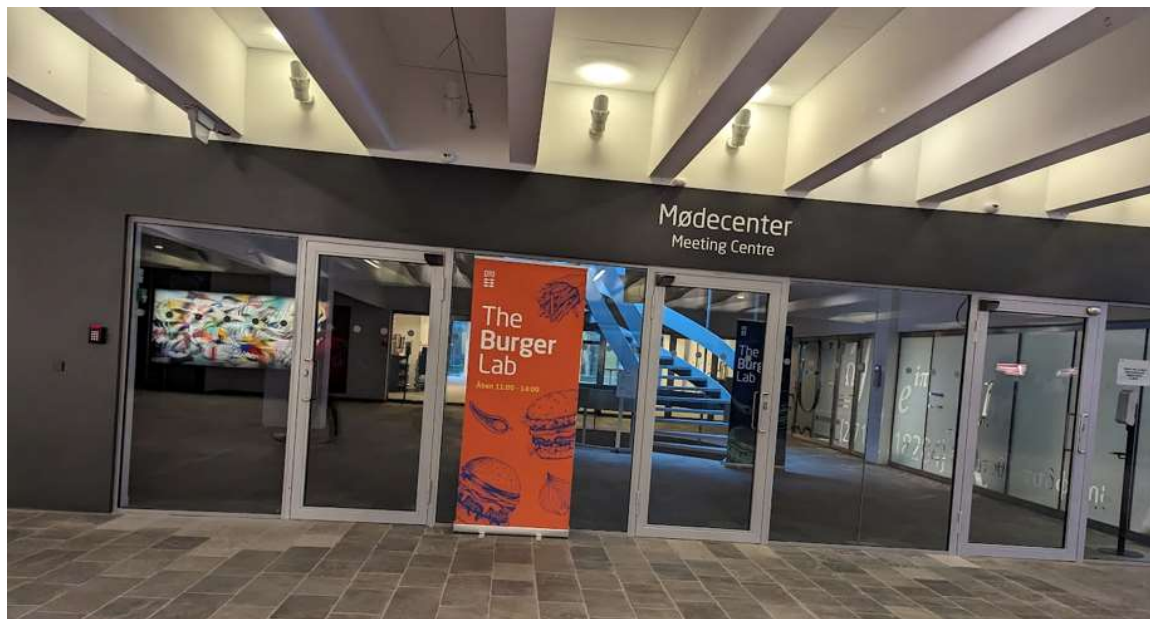Malware Variant Detection Based on Knowledge Transfer and Ensemble Learning
Rans Ford and Haoliang Sun

STARMAP: Multi-machine Malware Analysis System for Lateral Movement Observation
Shota Fujii, Yoichi Tsuzuki, Takanori Okamoto, Yu Tamura and Takayuki Sato

17:40 – 18:30 Business Meeting (M1)

18:30 – 20:00 Welcome Reception (outside M1)

Day 2: August 15, 2024 (GMT+2, Room M1 - Meeting Center at DTU)

Zoom link: https://ntu-sg.zoom.us/j/5176983759?pwd=d05YaFBkalhHNFpxN3VLaEJhdmZ4Zz09

9:00 – 10:00 Keynote II (Room M1)

10:00 – 10:20 Coffee Break

10:20 - 11:40 Session 4 Malware Analysis and Threat Management

Identifying Ransomware Functions through Microarchitectural Side-channel Analysis
Connor Startzel, Dane Brown, Owens Walker and Jennie Hill

Automatic Alert Categories Standardization for Heterogeneous Devices with Incomplete Semantic Knowledge Based on LSTM
Haiping Wang, Jianqiang Li, Binbin Li, Tianning Zang, Yifei Yang, Siyu Jia, Zisen Qi and Yu Ding

AutoCRAT: Automatic Cumulative Reconstruction of Alert Trees
Eric Ficke, Raymond Bateman and Shouhuai Xu

An Efficient IOC-Driven BigData Tracing and Backtracking Model for Emergency Response
Haiping Wang, Jianqiang Li, Binbin Li, Tianning Zang, Zisen Qi, Siyu Jia, Yu Ding and Yifei Yang

11:40 – 13:20 Lunch

13:20 – 14:40 Session 5: Network and IoT Security

Matching Knowledge Graphs for Cybersecurity Countermeasures Selection
Kéren A Saint-Hilaire, Christopher Neal, Frédéric Cuppens, Nora Cuppens-Boulahia and Makhlouf Hadji

An Enhanced Firewall for IoT Security
Sai Veerya Mahadevan, Yuuki Takano and Atsuko Miyaji

A Novel Scoring Algorithm Against HID Attacks Based on Static Text Feature Matching
Haiyang Li, Zhiqiang Lv, Yixin Zhang and Yanan Xue

Integrating Consortium Blockchain and Attribute-Based Searchable Encryption for Automotive Threat Intelligence Sharing Model
Tiange Xie, Feng Liu, Jiechao Gao and Yinghui Wang

14:40 – 15:20 Coffee Break

15:20 - 17:00 Session 6: Vulnerability and Privacy

Graph-Based Profiling of Dependency Vulnerability Remediation
Fernando Vera Buschmann, Palina Pauliuchenka, Ethan Oh, Bai Chien Kao, Louis DiValentin and David A. Bader

Completeness Analysis of Mobile Apps' Privacy Policies by Using Deep Learning
Khalid Alkhattabi and Chuan Yue

Exhaustive Exploratory Analysis of Low Degree Maximum Period NLFSRs Using Graph Analysis
Eric Filiol and Pierre Filiol

Family Similarity-Enhanced Implicit Data Augmentation for Malware Classification
Zisen Qi, Yijing Wang, Binbin Li, Tianning Zang, Hao Cui, Xingbang Tan and Yu Ding

Multi-Modal Multi-Task Tiered Expert (M3TTE): An Effective Method for CDN Website Classification
Yulong Zhan, Yang Cai, Gang Xiong, Gaopeng Gou and Xiaoqian Li

17:30 Bus Departure

18:30 –21:00 Banquet (Venue) and Conference ending

21:00 Bus Return

Day 3 August 16, 2023 (GMT+2)
Leaving day