CIC News

CIC Welcomes GDMS

The Canadian Institute for Cybersecurity is thrilled to welcome General Dynamics Mission Systems Canada (GDMS-C) as a Tier 1 Research and Development member. The Institute will be collaborating with the Calgary communications centre facility on various research initiatives relevant to their support of military operations starting with critical risk management.

CIC operates under a membership model available to businesses/industry, public institutions, and governments. Members receive essential services from the Institute aimed to increase their capability and potential for dealing with cybersecurity and/or to develop cybersecurity solutions. CIC has been privileged to conduct research and development work with several large companies and now, we are looking at what we can do for small and medium sized businesses.

If small or medium fits the description of your business, then we would love to hear from you. What type of research and development services or training can we provide to help you stay cybersecure?

Cybersecurity researcher, Kwasi Boakye-Boateng, provided a Social Engineering workshop to our friends at the YFC Fredericton International Airport last November!

Recent Publications

- A Comprehensive Survey on IoT Attacks: Taxonomy, Detection Mechanisms and Challenges
- A survey on run-time packers and mitigation techniques
- A Self-Attention Mechanism-Based Model for Early Detection of Fake News
- The Largest Social Media Ground-Truth Dataset for Real/Fake Content: TruthSeeker
- Evaluation Framework for Electric Vehicle Security Risk Assessment
- Transferability of Machine Learning Algorithm for IoT Device Profiling and Identification
- Internet of Things (IoT) security dataset evolution: Challenges and future directions
- An Efficient Dynamic Key Management Scheme for IoT Devices in Aging in Place Systems
- Securing Substations with Trust, Risk Posture, and Multi-Agent Systems: A Comprehensive Approach
- DDoS Attack Dataset (CICEV2023) against EV Authentication in Charging Infrastructure
- UCreDiSSiT: User Credibility Measurement incorporating Domain interest, Semantics in Social interactions, and Temporal factor
- Securing Supply Chain: A Comprehensive Blockchain-based Framework and Risk Assessment

CyberTitans Attend Industry Summit

One key feature for the 2023 Privacy, Security, and Trust Industry Summit was in the inclusion of Canadian CyberTitan teams from Nashwaaksis Middle School. They were provided free registration and were encouraged to mingle with other attendees. The young group were attentive to the program, polite, and took notes. This initiative was organized by Griffin Higgins (CIC) and their teacher, Gary Gautreau.

Having a small contingent of young people created a lighter atmosphere and a sense of fun at a typically serious event.

20th Privacy, Security, and Trust Conference

The PST conference has established itself as a leading international forum for presenting and discussing various cybersecurity topics from both research and practical perspectives. The 2023 conference was organized in two parts: an academic conference at Technical of University of Denmark, Copenhagen in August and an Industry Summit in Fredericton, New Brunswick in October. A total of 57 academic papers were accepted for presentation in August. Each covered topics related to privacy, security, and trust. These are now available on the IEEE Computer Society conference proceedings websites.

The Industry Summit included 13 keynote presentations delivered by cybersecurity experts. In addition, a panel discussion from experts shared knowledge about safeguarding research and innovation. Several keynote speakers gave permission to share their presentations to CIC's YouTube channel making them available to a broader audience.

Additionally, 27 research posters prepared by researchers and students from the University of New Brunswick related to real-world cybersecurity issues were exhibited during the Industry Summit. Throughout the program, the posters were judged by industry professionals to determine a best poster. They selected "GOOSELight: Elevating Substation Security in the Digital Age using Lightweight Cryptography" by Shabnam Saderi Oskouei, Arash Kariznovi, Nethmi Hettiarachchi, and Kalikinkar Mandal as the winning poster.

We express our gratitude to DTU, the SPTAGE Lab, the Atlantic Canada Opportunities Agency, Opportunities New Brunswick, and Ignite Fredericton for sponsoring the conference. We are particularly appreciative of the continuous support and technical co-sponsorship provided by the IEEE Computer Society. We would like to express our heartfelt gratitude to all the participants who have submitted research papers and posters and to those who presented and gave keynote talks at the conference. The next academic PST will be held on September 4-6 in Sydney, Australia. We will be sharing information about our 2024 Industry Summit program soon.

Shabnam Saderi Oskouei and Dr. Ali Ghorbani

CIC Soccer Team, Fall 2023

Dr. A. Ghorbani on Sabbatical

As of January 1st, Dr. Ali Ghorbani will be on sabbatical for one year. Being on sabbatical does not mean that he will not be working, however, it will change the way he works. Instead of being in his office everyday, he will be reprioritizing and travelling for research.

Dr. Rongxing Lu

In the meantime, Dr. Rongxing Lu will be CIC's Acting Director and Dr. Kalikinkar Mandal will be the Assistant Director. They will be overseeing the day to day operations at the Institute.

Dr. Lu is a Professor in the Faculty of Computer Science department, an IEEE Fellow, and the Mastercard IoT Chair.

Dr. Kali Mandal

Dr. Kalikinkar Mandal is an Associate Professor in the Faculty of Computer Science and holds the NB Power Cybersecurity Research Chair for smart grid security and privacy.

The CIC team looks forward to working with both of them and wishes Dr. Ghorbani a productive and enjoyable sabbatical.

Cybersecurity Awareness Month

Cybersecurity Awareness Month has been an internationally recognized campaign held each October since 2004 to help people learn more about the importance of cybersecurity. It is intended raise awareness and to help people stay secure online by teaching them how to protect themselves and their devices.

Each year, CIC hosts a webinar series that showcases the expertise of cybersecurity researchers, academics, and professionals. Organized by Dr. Windhya Rankothge and Dr. Mohammed Yahya Al-Darwbi in 2023, the series included guest speakers such as Karl Holmqvist, Founder and CEO at Lastwall and Dr. Argyri Panezi, Canada Research Chair in Digital Information Law and Policy. Other speakers included researchers from CIC.

The webinars were recorded and shared on the Institute's YouTube Channel as a playlists.

Upcoming Datasets

- CICIoMT2024: Attack Vectors in Healthcare devices-A Multi-Protocol Dataset for Assessing IoMT Device Security
- CICEVSE2024: Multi-Dimensional Dataset for Electric Vehicle Charging Station Security
- CICIoV2024: A Benchmark CAN Dataset to Evaluate IoV Security Solutions

Port innovation Engagement Research Meetings, Halifax, NS

Congratulatory Notes

Congratulations to Dr. Rongxing Lu for being recognized on Clarivate's 2023 list of Highly Cited Researchers! This list of scholars have authored multiple papers in the past decade that rank among the top 1% of citations in the Web of Science database.

The 2022-23 co-hort of Master of Applied Cybersecurity students graduated in October. Several participated in the RICKS internship program with Bell and McCain and have already started careers in cybersecurity. The Fall Convocation also included Master of Computer Science thesis and Doctor of Philosophy in Computer Science graduates.

Fall Convocation graduates included Mohammed Yahya Al-Darwbi (PhD), Yunguo Guan (PhD), Oyonika Samazder (MCS), Soheil Shirvani (MCS), Asma Sormeily (MCS), Hamideh Taslimasa (MCS), Gaurav Uttarkar (MCS), Hajarat Adejumo (MACSec), Jean Dominique Andre (MACSec), Mohammad Badri (MACSec), Judith Bravo de Medina Arribas (MACSec), Priyansh Jain (MACSec), Gregory William Kean (MACSec), Yongcheng Li (MACSec), Alaba Olawunmi (MACSec), Bhairavi Sagar Patel (MACSec), Vishesh Saxena (MACSec), Precious O. Shittu (MACSec), and Gideon Soremekun (MACSec). Congratulations, everyone!

Funding Announcements

The National Cybersecurity Consortium announced the first recipients of its Cyber Security Innovation Network program. University of New Brunswick projects included:

- AI-Enabled Vulnerability Management
- Next Generation User Fingerprinting for Fraud Detection and Prediction
- Post-Quantum Hardware Security Module (HSM) Migration Research Project
- Masters of Cybersecurity Management

Congratulations to all the organizations and their collaborators who submitted successful funding proposals to the NCC! We are among an incredible group of organizations who are working together towards the advancement of the Canadian cybersecurity ecosystem.

CIC also received a contribution from ACOA's Regional Innovation Ecosystem program to develop enhanced cybersecurity partnerships for New Brunswick companies.