Introduction
Recent developments in ICTs, Big Data, Data Mining, Deep Learning, IoT, Digital Twin, 5G, Virtual Reality, Cyber Security, Machine Learning, Artificial Intelligent, Block Chain, Information Security, Data Science, etc. are to provide better and successful analytics and results to secure information and systems in designing, developing, testing, understanding, accessing, processing, sharing, discovering, storing, evaluating, valuing, preserving, visualizing, and exploration. The importance of information, process and system security and privacy increases all the time in diversity as well as in quantity because of continuous threats and privacy violations encountered in many new forms on internet and systems. In order to provide better solutions to secure information, process and system and preserve privacy, new approaches, methods, techniques, technologies and concepts are always required. It is known that big data analytics, AI, Deep Learning and Data Mining enable new perceptions and solutions to secure and preserve them.

Advances in Machine and Deep Learning (MDL) and Big Data (BD) provide new challenges and solutions to the security and privacy problems encountered in applications, implementations and theories. MDL and BD techniques have found widespread applications and implementations in those issues. Many MDL and BD techniques, approaches, algorithms, methods and tools are extensively used by experts and researchers to achieve better results and to develop and design better and more robust systems.

Scope
The aim and scope of this special session is to:
- share the current and new research topics,
- respect and preserve privacy in research and developments,
- bring researchers and experts together to discuss and share their experiences,
- enhance personal, enterprise, national and international awareness,
- increase the collaboration among university – industry – institutions, and
- help to develop and design better and more secure systems
in applications of MDL and BD methods to the information system security, cyber security, and privacy fields.

This session scope is to provide a platform to present and to discuss recent advancements and developments in privacy issues and security systems and applications using BD and MDL methods. The main topics are given below:
- MDL in Information, System and Cyber Security
- MDL in Privacy Issues (Privacy, Violation, Anonymization and Preserving)
- MDL for Big Data, Big Data Analytics and Technologies
- MDL in Cyber Security Applications and Implementations
- MDL in Cryptography and Cryptanalysis
- MDL in Steganography and Steganalysis
- MDL in Security Risk Analysis, Modeling, Evaluation and Management
- MDL in Software Security, Secure Coding, Source Code Auditing and Review
- MDL in Critical Information and Infrastructure Security
- MDL in Security Standards, Protocols and Policies
- MDL in RFID, NFC, 3G, 4G and 5G Security
- MDL in Operating System Security
- MDL in Clouds and Virtual Machine Security
- MDL in Biometric based Security
- MDL in Mobile Communication and Application Security
- MDL in Securing Social Networks
- MDL in Securing Networks, Computers, Services, Systems, Databases and Devices
- MDL in Web and Web Application Security
- MDL in Penetration Tests, Tools and Techniques
- MDL in Intrusion and Anomaly Detection and Prevention Systems
- MDL in Recent Theory, Trends, Technologies and Applications
- Future Directions and Challenges

**Submission Guidelines and Instructions:**

Papers submitted for reviewing should conform to IEEE specifications. Manuscript templates can be downloaded from [IEEE website](https://www.ieee.org). The maximum length of papers is 8 pages. All the papers will go through double-blind peer review process. Authors’ names and affiliations should not appear in the submitted paper. Authors’ prior work should be cited in the third person. Authors should also avoid revealing their identities and/or institutions in the text, figures, links, etc.

Papers must be submitted via the [CTM System](https://www.chem-eng.msu.edu/ctm) by selecting the track “Special Session: Machine and Deep Learning in Cyber Security and Privacy Issues”. All accepted papers must be presented by one of the authors, who must register. Detailed instructions for submitting papers can be found at [How to Submit](https://www.chem-eng.msu.edu/ctm).

**Paper Publication:**

Accepted papers will be published in the ICMLA 2020 conference proceedings (to be published by IEEE).

In addition, a selected number of accepted papers will be invited for possible inclusion, in an expanded and revised form, in a special issue of *International Journal of Information Security Science, IJISS* (www.ijiss.org).

**Important Dates:**

- Submission Deadline: September 1, 2020
- Notification of Acceptance: September 26, 2020
- Camera-ready papers & Pre-Registration: October 1, 2020
- The ICMLA Conference 14-17 December 2020

**Special Session Organizers**

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