IEEE Transactions on VLSI Systems
Call for Papers

Special Issue on Machine Intelligence for Security and Privacy Analytics

~~Submission Deadline: January 20, 2019~~

Deadline Extended: January 31, 2019

IEEE Transactions on VLSI Systems seeks original manuscripts for a Special Issue on ***Machine Intelligence for Security and Privacy Analytics*** scheduled to appear by Fall 2019.

We interact with a large variety of computing systems in our daily life. These computing systems are connected through the network to provide a wide array of services. Depending on our specific circumstances, our interactions can be with embedded and cyber-physical systems or Internet-of-Things (IoT) devices. While these devices vary in terms of form factors, performance, and energy constraints, for all these devices, security and privacy issues have come to the forefront of design considerations. These systems collect and analyze our personal, financial as well as health information on a regular basis. Consequently, research and development efforts in academia and industry have been increasingly focusing on designing systems with security and privacy in mind. Given the complexity of these systems and the diversity of the potential attacks, machine learning has become an attractive solution for security and privacy analytics. It has made its mark for detecting known software, firmware as well as hardware vulnerabilities. Recent efforts have also highlighted the need for design automation techniques to ensure that the implementation of machine learning algorithms is robust against faults and side channels to enhance the overall system security.

The proposed special issue will cover emerging trends in security and privacy analytics using machine learning techniques. The papers will be solicited to cover both theoretical and practical aspects related to security and privacy including, but not limited to, the following:

- **System security and privacy:** IoT security, embedded systems security, hardware security and trust, physically unclonable functions, random number generators, machine learning assisted side channel analysis, machine learning for detection of side channel attacks, malwares, etc.
- **Machine learning for security:** machine learning techniques, cognitive systems, artificial intelligence, adversarial learning, fault tolerance of AI, robust AI, secure hardware implementations of cryptographic functions
- **Applications and case studies:** FPGA security, smart autonomous systems, security- and privacy-aware data analytics, design for safety and certifications in airborne, health care, automotive and IoT applications, FPGA accelerators for analytics on encrypted data.

Manuscripts should conform to technical requirements of the Transactions on VLSI – they should be unpublished and original. Submissions that are extensions of previously published conference papers should have at least 30% in terms of new content excluding introduction and review of literature. Papers outside the scope of the special section and papers that are in conflict of interest with the guest editors will be rejected. However, such papers can be resubmitted to the regular section of TVLSI.

Important Dates:

Submission Deadline: January 20, 2019

Reviews Completed: April 15, 2019

Revised Manuscript Submission: May 15, 2019

Notification of Final Acceptance: June 15, 2019

Submission of Final Version: July 15, 2019

Guest Editors:

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Submission Details:

All manuscripts must be submitted through the TVLSI ScholarOne (ManuscriptCentral) website at https://mc.manuscriptcentral.com/tvlsi-ieee

Once you start the submission process in your Author Centre, make sure to do the following:

- Step 1/Type: Make sure to choose "Special Section"
- Step 6/Special Section: Choose "Security and Privacy" in the dropdown menu

Failure to choose both options will result in your manuscript being processed in the general pool. For more information on IEEE Transactions on VLSI Systems, please visit the following website:

http://tvlsi.egr.duke.edu/

To avoid delays or automatic rejections, please make sure your manuscript complies with all TVLSI rules including:

1. Biographies are required for regular papers. Do not submit unless the manuscript has biographies.
2. All authors must be listed in step 3. Make sure the e-mails are up to date, do not create duplicate accounts.
3. If this is not an extension, but there is overlap from your own related publications, a detailed novelty statement needs to be provided after the bio section.
4. A detailed list of differences is needed after the bio section for extensions of previously published work.
5. Upload either a PDF or source file for the manuscript to be reviewed, not both.
6. Manuscripts require IEEE double column format with the figures embedded in the text.
7. To prevent plagiarism, all submissions are scanned with a software that detects overlap with other publications. Papers that have overlap with previous publications (or other sources) and do not include the above novelty statement are automatically rejected and are not allowed to be resubmitted.

A list of frequently asked questions can be found on the ScholarOne Manuscripts homepage when you log into your account.