

AdAM: Adaptive Approximate Multiplier for Fault Tolerance in DNN Accelerators

Taheri, Mahdi; Cherezova, Natalia; Nazari, Samira; Azarpeyvand, Ali; Ghasempouri, Tara; Daneshtalab, Masoud; Raik, Jaan; Jenihhin, Maksim IEEE transactions on device and materials reliability 2024 / p. 66-75 : ill <https://doi.org/10.1109/TDMR.2024.3523386>

AdAM: adaptive fault-tolerant approximate multiplier for edge DNN accelerators

Taheri, Mahdi; Cherezova, Natalia; Nazari, Samira; Rafiq, Ahsan; Azarpeyvand, Ali; Ghasempouri, Tara; Daneshtalab, Masoud; Raik, Jaan; Jenihhin, Maksim 2024 IEEE European Test Symposium (ETS): ETS 2024 : May 20-24, 2024, The Hague, Netherlands : proceedings 2024 <https://doi.org/10.1109/ETS61313.2024.10567161> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

ADAssure : debugging methodology for autonomous driving control algorithms

Roberts, Andrew James; Heidari Iman, Mohammad Reza; Bellone, Mauro; Ghasempouri, Tara; Raik, Jaan; Maennel, Olaf Manuel; Hamad, Mohammad; Steinhorst, Sebastian 2024 Design, Automation & Test in Europe Conference & Exhibition (DATE) : proceedings 2024 / p. 1-6 <https://doi.org/10.23919/DATE58400.2024.10546519> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Adjustable self-healing methodology for accelerated functions in heterogeneous systems

Riazati, Mohammad; Ghasempouri, Tara; Daneshtalab, Masoud; Raik, Jaan; Sjodin, Mikael; Lisper, Bjorn 2020 23rd Euromicro Conference on Digital System Design (DSD), 26-28 August 2020, Kranj, Slovenia 2020 / p. 638-645 <https://doi.org/10.1109/DSD51259.2020.00104>

An automatic approach to evaluate assertions' quality based on data-mining metrics

Ghasempouri, Tara; Niazmand, Behrad; Raik, Jaan Proceedings 2nd IEEE International Test Conference in Asia : ITC-Asia 2018, 15-17 August 2018, Harbin, China 2018 / p. 61-66 : ill <https://doi.org/10.1109/ITC-Asia.2018.00021>

Anomalous File System Activity detection through Temporal Association rule mining

Reza, M.; Iman, H.; Chikul, Pavel; Jervan, Gert; Bahsi, Hayretidin; Ghasempouri, Tara Proceedings of the 9th International Conference on Information Systems Security and Privacy ICISSP. Vol. 1 2023 / p. 733-740 <https://doi.org/10.5220/0000168400003405>

ARTmine : automatic association rule mining with temporal behavior for hardware verification

Heidari Iman, Mohammad Reza; Jervan, Gert; Ghasempouri, Tara 2024 Design, Automation & Test in Europe Conference & Exhibition (DATE) : Valencia, Spain, 25-27 March 2024 : proceedings 2024 / p. 1-6 : ill <https://ieeexplore.ieee.org/document/10546742> <https://doi.org/10.23919/DATE58400.2024.10546742> [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

An automated method for mining high-quality assertion sets

Heidari Iman, Mohammad Reza; Raik, Jaan; Jenihhin, Maksim; Jervan, Gert; Ghasempouri, Tara Microprocessors and microsystems 2023 / art. 104773 <https://doi.org/10.1016/j.micpro.2023.104773> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

CLD : an accurate, cost-effective and scalable run-time Cache Leakage Detector

Shalabi, Ameer; Ghasempouri, Tara; Ellervee, Peeter; Raik, Jaan 2021 24th International Symposium on Design and Diagnostics of Electronic Circuits & Systems (DDECS) : Vienna, Austria, 07-09 April 2021 2021 / p. 127-132 : ill <https://doi.org/10.1109/DDECS52668.2021.9417071>

Cost-effective concurrent hardware checkers for network on chip based system on chip = Kulutõhusad süsteemiga paralleelsed rikkemonitorid kiipvõrkudel põhinevatele kiipsüsteemidele

Hariharan, Ranganathan 2019 <https://digi.lib.ttu.ee/i/?12854> https://www.ester.ee/record=b5243161*est

Design understanding : from logic to specification

Fey, Goerschwin; Ghasempouri, Tara; Jacobs, Swen; Raik, Jaan Proceedings of the 2018 IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC) : October 8-10, 2018, Verona, Italy 2018 / p. 172-175 : ill <https://doi.org/10.1109/VLSI-SoC.2018.8644732>

Efficient and effective association rule mining on big data and cloud technology : a multifaceted analysis = Tõhus ja efektiivne assotsiatsioonireeglite kaevandamine suurandmetel ja pilvetehnoloogial : mitmekülgne analüüs

Shahin, Mahtab 2024 https://www.ester.ee/record=b5701564*est <https://digikogu.taltech.ee/et/Item/5cb16841-6d26-495f-88bb-5ae980bcd258> <https://doi.org/10.23658/taltech.50/2024>

Engineering of an effective automatic dynamic assertion mining platform

Ghasempouri, Tara; Malburg, Jan; Danese, Alessandro; Pravadelli, Graziano; Fey, Goerschwin; Raik, Jaan VLSI-SoC 2019 : 27th IFIP/IEEE International Conference on Very Large Scale Integration : [proceedings] 2019 / p. 111-116 : ill <https://doi.org/10.1109/VLSI-SoC.2019.8920331>

Enhancing assertion-based verification in hardware designs through data mining algorithms = Andmekaeve algoritmide kasutamine riistvarasüsteemide väidete-põhise verifitseerimise parendamiseks

Heidari Iman, Mohammad Reza 2024 <https://digikogu.taltech.ee/et/Item/622f3660-e890-454d-aa85-7cc505557f77>

Exploring factors in a crossroad dataset using cluster-based association rule mining

Shahin, Mahtab; Heidari Iman, Mohammad Reza; Kaushik, Minakshi; Sharma, Rahul; Ghasempouri, Tara; Draheim, Dirk Procedia computer science 2022 / p. 231-238 : ill <https://doi.org/10.1016/j.procs.2022.03.032> [Conference proceeding at Scopus](#) [Article at Scopus](#)

FORTUNE: A Negative Memory Overhead Hardware-Agnostic Fault Tolerance Technique in DNNs

Nazari, Samira; Taheri, Mahdi; Azarpeyvand, Ali; Afsharchi, Mohsen; Ghasempouri, Tara; Herglotz, Christian; Daneshtalab, Masoud; Jenihhin, Maksim 2024 IEEE 33rd Asian Test Symposium (ATS) 2024 / p. 1-6 : ill <https://doi.org/10.1109/ATS64447.2024.10915463> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

From RTL liveness assertions to cost-effective hardware checkers

Hariharan, Ranganathan; Ghasempouri, Tara; Niazmand, Behrad; Raik, Jaan XXXIII Conference on Design of Circuits and Integrated Systems (DCIS) : proceedings 2018 / 6 p. : ill <https://doi.org/10.1109/DCIS.2018.8681487>

A hierarchical approach for devising area efficient concurrent online checkers

Niazmand, Behrad; Azad, Siavoosh Payandeh; Ghasempouri, Tara; Raik, Jaan; Jervan, Gert Proceedings 2nd IEEE International Test Conference in Asia : ITC-Asia 2018, 15-17 August 2018, Harbin, China 2018 / p. 139-144 : ill <https://doi.org/10.1109/ITC-Asia.2018.00034>

IMMizer : an innovative cost-effective method for minimizing assertion sets

Heidari Iman, Mohammad Reza; Raik, Jaan; Jervan, Gert; Ghasempouri, Tara 2022 25th Euromicro Conference on Digital System Design (DSD) : Maspalomas, Spain 2022 : proceedings 2022 / p. 671 - 678 <https://doi.org/10.1109/DSD57027.2022.00095> [Article at Scopus](#) [Article at WOS](#)

Leveraging Large Language Models for IoT Applications : A Maritime Image Dataset Perspective

Shahin, Mahtab; Rahimpour, Saeed; Ghasempouri, Tara; Kujalai, Pentti; Bauk, Sanja 10th International Conference On Smart And Sustainable Technologies 2025

LiD-CAT: A lightweight detector for cache ATtacks

Reinbrecht, Cezar; Hamdioui, Said; Taouil, Mottaqiallah; Niazmand, Behrad; Ghasempouri, Tara; Raik, Jaan; Sepulveda, Johanna 2020 IEEE European Test Symposium (ETS) : ETS 2020, May 25-29, 2020 Tallinn, Estonia : proceedings 2020 / 6 p. : ill <https://doi.org/10.1109/ETS48528.2020.9131603>

Meteorological Insights : Scalable Weather Pattern Mining in Tallinn and Tartu

Shahin, Mahtab; Ghasempouri, Tara; Aznar Poveda, Juan; Janatian, Nasim; Fahringer, Thomas; Attique Shah, Syed; Draheim, Dirk 2025 / 10 p.

A methodology for automated mining of compact and accurate assertion sets

Heidari Iman, Mohammad Reza; Raik, Jaan; Jenihhin, Maksim; Jervan, Gert; Ghasempouri, Tara 2021 IEEE Nordic Circuits and Systems Conference (NorCAS) : Oslo, Norway, October 26-27 2021 / 7 p. : ill <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9599865> <https://doi.org/10.1109/NorCAS53631.2021.9599865>

NV-SP: A new high performance and low energy NVM-Based scratch pad

Shalabi, Ameer; Paul, Kolin; Ghasempouri, Tara; Raik, Jaan 2020 IEEE Computer Society Annual Symposium on VLSI : ISVLSI 2020, 6-8 July 2020, Limassol, Cyprus 2020 / art. 19876866, p. 54-59 <https://doi.org/10.1109/ISVLSI49217.2020.00020>

On the use of defensive schemes for hardware security = Kaitseskeemid riistvara turvalisuse tagamiseks

Eslami, Mohammad 2024 https://www.ester.ee/record=b5701420*est <https://doi.org/10.23658/taltech.53/2024> <https://digikogu.taltech.ee/et/Item/068530be-4810-4489-9604-fb838d298b45>

Orchestration of serverless functions for scalable association rule mining with Apollo

Shahin, Mahtab; Janatian, Nasim; Poveda, Juan; Aznar, Juan; Fahringer, Thomas; Ghasempouri, Tara; Shah, Syed Attique; Draheim, Dirk techrxiv.org 2024 / 20 p <https://doi.org/10.36227/techrxiv.172101151.16682756/v1>

PATROL: an evolutionary Approach to Automatic Test Pattern Generation for hardware TROjan detection leveraging PSO-GA hybrid techniques

Hosseini, Mostafa; Azarpeyvand, Ali; Ghasempouri, Tara Proceedings of the 2024 IEEE 33rd Asian Test Symposium : ATS 2024 : Ahmedabad, India, 17-20 December 2024 / 6 p. <https://doi.org/10.1109/ATS64447.2024.10915294> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Performance of a distributed apriori algorithm using the serverless functions of the Apollo framework

Shahin, Mahtab; Shah, Syed Attique; Sharma, Rahul; Ghasempouri, Tara; Poveda, Juan; Aznar, Juan; Fahringer, Thomas; Draheim, Dirk Machine Learning Methods in Systems : proceedings of 13th Computer Science On-line Conference 2024 / 12 p <https://link.springer.com/book/9783031705946> https://doi.org/10.1007/978-3-031-70595-3_37 [Conference proceedings at Scopus](#) [Article at Scopus](#)

Processor vulnerability detection with the aid of assertions : RISC-V case study

Heidari Iman, Mohammad Reza; Ahmadi-Pour, Sallar; Drechsler, Rolf; **Ghasempouri, Tara** techrxiv.org 2024 / p. 1-8 : ill
<https://doi.org/10.36227/techrxiv.172101134.45466090/v1>

Reusing verification assertions as security checkers for Hardware Trojan detection

Eslami, Mohammad; Ghasempouri, Tara; Pagliarini, Samuel Nascimento 2022 23rd International Symposium on Quality Electronic Design (ISQED), Santa Clara, CA, USA : 06-07 April 2022 2022 / p. 1-6 : ill
<https://doi.org/10.1109/ISQED54688.2022.9806292>

RTL assertion mining with automated RTL-to-TLM abstraction

Ghasempouri, Tara; Danese, Alessandro; Pravadelli, Graziano; Bombieri, Nicola; **Raik, Jaan** Proceedings of the 2019 Forum on specification & Design Languages (FDL) 2019 / 8 p. : ill <https://doi.org/10.1109/FDL.2019.8876941>

SCAAT: Secure cache alternative address table for mitigating cache logical side-channel attacks

Shalabi, Ameer; Ghasempouri, Tara; Ellervee, Peeter; Raik, Jaan 2020 23rd Euromicro Conference on Digital System Design (DSD), 26-28 August 2020, Kranj, Slovenia 2020 / art. 20035366, p. 213–217 <https://doi.org/10.1109/DSD51259.2020.00043>

SCARF : securing chips with a robust framework against fabrication-time hardware trojans

Eslami, Mohammad; Ghasempouri, Tara; Pagliarini, Samuel Nascimento IEEE Transactions on Computers 2024 / p. 2761-2775 <https://doi.org/10.1109/TC.2024.3449082> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

SCARF : securing chips with a robust framework against fabrication-time hardware Trojans : preprint

Eslami, Mohammad; Ghasempouri, Tara; Pagliarini, Samuel Nascimento arXiv.org 2024 / 14 p. : ill
<https://doi.org/10.48550/arXiv.2402.12162>

A security verification template to assess cache architecture vulnerabilities

Ghasempouri, Tara; Raik, Jaan; Paul, Kolin; Reinbrecht, Cezar; Hamdioui, Said; Taouil, M. 2020 23rd International Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS), April 22nd – 24th 2020 Novi Sad, Serbia : Proceedings 2020 / art. 9095707, 6 p <https://doi.org/10.1109/DDECS50862.2020.9095707>

Significant factors extraction : a combined logistic regression and apriori association rule mining approach

Shahin, Mahtab; Burtl, Markus; **Heidari Iman, Mohammad Reza; Ghasempouri, Tara; Sharma, Rahul;** Shah, Syed Attique; Draheim, Dirk Machine Learning Methods in Systems : proceedings of 13th Computer Science On-line Conference 2024 ; Vol. 4 2024 / p. 295-311 <https://link.springer.com/book/9783031705946> https://doi.org/10.1007/978-3-031-70595-3_30 [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Survey on architectural attacks : a unified classification and attack model

Ghasempouri, Tara; Raik, Jaan; Reinbrecht, Cezar; Hamdioui, Said; Hamdioui, Said ACM Computing Surveys 2023 / art. 42
<https://doi.org/10.1145/3604803> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Zero-memory-overhead clipping-based fault tolerance for LSTM deep neural networks

Parchekani, Bahram; Nazari, Samira; **Ahmadiilivani, Mohammad Hasan; Azarpeyvand, Ali; Raik, Jaan; Ghasempouri, Tara; Daneshtalab, Masoud** 37th IEEE International Symposium on Defect and Fault Tolerance in VLSI and Nanotechnology Systems, Harwell, Oxfordshire, Didcot, UK, October 8th - 10th, 2024 2024 / 4 p. : ill <https://doi.org/10.1109/DFT63277.2024.10753533> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Towards multidimensional verification : where functional meets non-functional

Jenihhin, Maksim; Lai, Xinhui; Ghasempouri, Tara; Raik, Jaan 2018 IEEE Nordic Circuits and Systems Conference (NORCAS) : NORCHIP and International Symposium of System-on-Chip (SoC) : 30-31 October 2018, Tallinn, Estonia : proceedings in IEEE Xplore 2018 / 7 p. : ill <https://doi.org/10.1109/NORCHIP.2018.8573495>

Towards smarter maritime security : Apriori algorithm optimization in serverless environments

Shahin, Mahtab; Rahimpour, Saeed; Ghasempouri, Tara; Bauk, Sanja; Fahringer, Tara; Draheim, Dirk Procedia computer science 2025 / p. 1 - 8 https://scholar.google.com/citations?view_op=view_citation&hl=en&user=9AGg5vkAAAAJ&csstart=20&pagesize=80&citation_for_view=9AGg5vkAAAAJ:-f6ydRqryjwC

Understanding multidimensional verification : where functional meets non-functional

Lai, Xinhui; Balakrishnan, Aneesh; Lange, Thomas; **Jenihhin, Maksim; Ghasempouri, Tara; Raik, Jaan;** Alexandrescu, Dan Microprocessors and microsystems 2019 / art. 102867, 13 p. : ill <https://doi.org/10.1016/j.micpro.2019.102867> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Verifying cache architecture vulnerabilities using a formal security verification flow

Ghasempouri, Tara; Raik, Jaan; Paul, Kolin; Reinbrecht, Cezar; Hamdioui, Said; Taouil, Mottaqiallah Microelectronics reliability 2021 / art. 114085 <https://doi.org/10.1016/j.microrel.2021.114085> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

