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Technical Program

Monday, July 3, 2023

08:45 – 09:00 Opening Session

09:00 – 10:00 Keynote

Silent Data Corruptions at Scale

Speaker: Harish Dixit (Meta)

Moderator: Dimitris GIZOPOULOS (University of Athens)

10:00-10:15 Coffee Break

10:15 – 11:15 Regular Session 1 – Fault-Tolerant Systems

Moderator: Angeliki KRITIKAKOU (Univ Rennes, Inria, IRISA – France)

- **A Novel Approach to Error Resilience in Online Reinforcement Learning** - Chandramouli AMARNATH, Abhijit CHATTERJEE (Georgia Institute of Technology) 1
- **Avoiding Soft Error-induced Illegal Memory Accesses in GPU with Inter-thread Communication** - Riku IWAMOTO (Osaka University), Masanori HASHIMOTO (Kyoto University) 8
- **TREFU: An Online Error Detecting and Correcting Fault Tolerant GPGPU Architecture** - Raghunandana K (Indian Space Research Organisation), Varaprasad BKSVL (Dayanandasagar College of Engineering), Matteo SONZA REORDA (Politecnico di Torino), Virendra SINGH (Indian Institute of Technology Bombay) 15

11:30 – 12:30 Regular Session 2 – Hardware Attacks and Defenses

Moderator: Ramon CANAL (Barcelona Supercomputing Center)

- **ShapeShifter: Protecting FPGAs from Side-Channel Attacks with Isofunctional Heterogeneous Modules** - Mahya MORID AHMADI (Vienna University of Technology), Lilas ALRAHIS (New York University Abu Dhabi), Ozgur SINANOGLU (NYU-Abu Dhabi), Muhammad SHAFIQUE (New York University Abu Dhabi (NYUAD)) 22
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14:00 – 15:00 Special Session 1 – Frontiers of Hardware Security

Organizer: Jeyavijayan RAJENDRAN (Texas A&M)

Moderator: Mihalis MANIATAKOS (NYU Abu Dhabi)

- **Learning to Protect: Reinforcement Learning for Hardware Security** - Jeyavijayan RAJENDRAN (Texas A&M University) N/A
- **Are Machine Learning Based CAD Tools Secure?** - Siddharth GARG (NYU) N/A
- **An integrated testbed for trojans in printed circuit boards with fuzzing capabilities** - Virinchi SURABHI, Hammond PEARCE, Prashanth KRISHNAMURTHY, Ramesh KARRI, Farshad KHORRAMI and Joshua TRUJILLO 43

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Organizer: Dimitris GIZOPOULOS (University of Athens)

Moderator: Stefano DI CARLO (Politecnico di Torino)

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- **Silent Data Corruptions: Microarchitectural Modeling** - Dimitris GIZOPOULOS (University of Athens) 47
- **Silicon Data Corruption: Investigation or Mitigation** - Yervant ZORIAN (Synopsys) N/A

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Moderator: Sergi ALCAIDE (Barcelona Supercomputer Center)

- **MPLoC: Privacy-Preserving IP Verification using Logic Locking and Secure Multiparty Computation** - Dimitris MOURIS, Charles GOUERT, Nektarios TSOUTSOS (University of Delaware) 54
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Organizer: Marcello TRAIOLA (INRIA Rennes / IRISA Lab)

Moderator: Alessandro SAVINO (Politecnico di Torino)

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- **System-level Security Solutions for RISC-V** - Alessandro PALUMBO, Luca CASSANO (Politecnico di Milano – Italy), Marco OTTAVI (Università degli Studi di Roma Tor Vergata – Italy and University of Twente – The Netherlands). Presenter: Marcello TRAIOLA (INRIA Rennes / IRISA Lab) N/A
- **Fine-grained Dual Core Lock-Step (DCLS) RISC-V** - Romaric P. NIKIEMA, Marcello TRAIOLA, Angeliki KRITIKAKOU (Univ Rennes, Inria, IRISA – France) N/A
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Moderator: Mihalys PSARAKIS (University of Piraeus)

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Moderator: Mehdi TAHOORI (Karlsruhe Institute of Technology)

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Organizer: Yervant ZORIAN (Synopsys)

Moderator: Alessandro SAVINO (Politecnico di Torino)

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