

# 19th International Conference on Information Systems Security (ICISS 2023)

NIT Raipur, December 16-19, 2023

## Program for Day 1 (December 16, Saturday)

08:00 onwards	<b>ICISS 2023 Registration</b>
09:30 - 10:00 <b>Inauguration</b>	<b>Welcome Address</b> <i>N V Ramana Rao, Director, NIT Raipur (Patron)</i> <b>Opening Remarks about the ICISS Series</b> <i>RK Shyamasundar, IIT Bombay (General Chair)</i> <b>ICISS 2023 Overview, Release of Springer Online Proceedings, Agenda</b> <i>V Muthukkumarasamy, Griffith University (PC Co-chair)</i> <i>SD Sudarsan, CDAC (PC Co-chair)</i> <i>Chandrashekar Jatoth, NIT Raipur (Local Organizing Co-chair)</i>
10:00 - 11:00 <b>Keynote</b> <b>Session Chair:</b> RK Shyamasundar	<b>How to Train and Use AI Models on Sensitive Data without Compromising Privacy?</b> <i>Nishanth Chandran (Microsoft Research, India)</i>
11:00 - 11:30	Tea Break
11:30 - 12:30 <b>Session 1:</b> <b>Systems Security</b> <b>Session Chair:</b> Ram Krishnan	<b>A Security Analysis of Password Managers on Android</b> <i>Abhyudaya Sharma and Sweta Mishra (Shiv Nadar University, India)</i> <b>The Design and Application of a Unified Ontology for Cyber Security (online)</b> <i>Khandakar Ashrafi Akbar, Fariha Ishrat Rahman, Anoop Singhal, Latifur Khan and Bhavani Thuraisingham (University of Texas at Dallas, USA)</i>
12:30 - 14:00	Lunch Break
14:00 - 15:20 <b>Session 2:</b> <b>Systems Security</b> <b>Session Chair:</b> Nishanth Chandran	<b>Big Data Forensics on Apache Kafka</b> <i>Thomas Mager (Independent Researcher, Germany)</i> <b>A Survey on Security Threats and Mitigation Strategies for NoSQL Databases MongoDB as a Use Case</b> <i>Surabhi Dwivedi, Balaji Rajendran, Praveen Ampatt and S D Sudarsan (CDAC Bengaluru, India)</i> <b>Theoretical Enumeration of Deployable Single-output Strong PUF Instances based on Uniformity and Uniqueness Constraints</b> <i>Venkata Sreekanth Balijabudda, Kamalesh Acharya, Rajat Subhra Chakraborty and Indrajit Chakrabarti (IIT Kharagpur, India)</i>
15:20 - 15:40	Tea Break
15:40 - 18:30 <b>Tutorials</b> <b>Session Chair:</b> Rakesh Tripathi	<b>Vajra: A Tool for Endpoint Management and Threat Detection</b> <i>Manjesh Kumar Hanawal and Atul Kabra (IIT Bombay, India)</i> <b>Data Anonymization Techniques</b> <i>Vishwas Patil (IIT Bombay, India)</i>

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## Program for Day 2 (December 17, Sunday)

09:30 - 10:30 <b>Keynote</b>  <b>Session Chair:</b> RK Shyamasundar	<b>hinTS: Threshold Signatures with Silent Setup</b> (online) <i>Sanjam Garg (UC Berkeley)</i>
10:30 - 11:00	Tea Break
11:00 - 12:30  <b>Session 3: Blockchains</b>  <b>Session Chair:</b> Balaji Rajendran	<b>Ensuring Data Security in the Context of IoT Forensics Evidence Preservation with Blockchain and Self-Sovereign Identities</b> (online) <i>Cristian Alves dos Santos, Leandro Loffi and Carla Merkle Westphall (Federal University of Santa Catarina, Brazil)</i>  <b>Analysis of Optimal Number of Shards using ShardEval, A Simulator for Sharded Blockchains</b> <i>Vishisht Priyadarshi, Sourav Goel and Kalpesh Kapoor (IIT Guwahati, India)</i>  <b>SoK: Digital Signatures and Taproot Transactions in Bitcoin</b> <i>Anubha Jain and Emmanuel S Pilli (MNIT Jaipur, India)</i>
12:30 - 14:00	Lunch Break
14:00 - 15:00  <b>Session 4: Blockchains</b>  <b>Session Chair: N Subramanian</b>	<b>Crypto-Ransomware Detection: A Honey-file-based approach using chi-square test</b> <i>Ajith Arakkal, Shehzad Pazheri Sharafudheen and Vasudevan A R (NIT Calicut, India)</i>  <b>PSDP: Blockchain-Based Computationally Efficient Provably Secure Data Possession</b> <i>Jayaprakash Kar (LNMIIT Jaipur, India)</i>  <b>Private and Verifiable Inter-bank Transactions and Settlements on Blockchain</b> <i>Harika Narumanchi, Maddali LakshmiPadmaja and Nitesh Emmadi (TCS Research, India)</i>
15:00 - 17:00  <b>PhD Forum &amp; Industry Demo</b>  <b>Session Chair:</b> Radhika BS & Neminath Hubballi	<b>PhD Forum Lightning Talks (5 mins/submission)</b> Paper ID: 117, 119, 126, 127, 129, <u>132</u> , <u>133</u> , <b>120</b> , <b>121</b>  <b>Industry/Demo Track Demos + Poster Presentations of PhD Forum</b> Paper ID: 114, 115 (over a long Tea Break; after the Lightning Talks)
17:00 - 17:40  <b>Session 5: Privacy</b>  <b>Session Chair:</b> SD Sudarsan	<b>Attack on the Privacy-Preserving Carpooling Service TAROT</b> <i>Meghana Vargheese and Srinivas Vivek (IIIT Bangalore, India)</i>  <b>Democracy in Your Hands!: Practical Multi-Key Homomorphic E-Voting</b> <i>Tanusree Parbat, Aniket Banerjee and Ayantika Chatterjee (IIT Kharagpur, India)</i>
17:40 - 18:10	<b>Business Meeting:</b> Announcements related to the future editions of ICISS All are invited.

## Program for Day 3 (December 18, Monday)

<p>09:30 - 10:30</p> <p><b>Session 6: Network Security</b></p> <p><b>Session Chair:</b> Radhika BS</p>	<p><b>Detection and Hardening Strategies to Secure an Enterprise Network</b> <i>Preetam Mukherjee, Sabu M Thampi, Rohith N, Bishwajit Kumar Poddar and Ipshita Sen (Digital University Kerala, India)</i></p> <p><b>Attack Graph Based Security Metrics For Dynamic Networks</b> <i>Ayan Gain and Mridul Sankar Barik (Jadavpur University, India)</i></p>
<p>10:30 - 11:00</p>	<p>Tea Break</p>
<p>11:00 - 12:30</p> <p><b>Session 7: Crypto</b></p> <p><b>Session Chair:</b> Vishwas Patil</p>	<p><b>An Energy-conscious surveillance scheme for intrusion detection in underwater sensor networks using Tunicate swarm optimization</b> <i>Kammula Sunil Kumar, Veena Anand and Deepak Singh (NIT Raipur, India)</i></p> <p><b>Secured Collaboration with Ciphertext Policy Attribute Based Signcryption in a Distributed Fog Environment for Medical Data Sharing</b> <i>Thushara G A and S. Mary Saira Bhanu (NIT Trichy, India)</i></p> <p><b>Verifiable Timed Accountable Subgroup Multi-signatures (online)</b> <i>Duygu Ozden and Oğuz Yayla (Middle East Technical University, Turkey)</i></p> <p><b>Escrow and Pairing Free CP-ABE Scheme with Forward and Backward Secrecy for Healthcare Internet of Things</b> <i>Sourabh Bhaskar, Keyur Parmar and Devesh C. Jinwala (SVNIT Surat, India)</i></p>
<p>12:30 - 14:00</p>	<p>Lunch Break</p>
<p>14:00 - 15:00</p> <p><b>Invited Talk</b></p> <p><b>Session Chair:</b> Vishwas Patil</p>	<p><b>Follow the Money (online)</b> <i>Thomas Silkjær (XRP Ledger Foundation, Denmark)</i></p>
<p>15:00 - 15:30</p>	<p>Tea Break</p>
<p>15:30 - 17:40</p> <p><b>Session 8: Blockchains</b></p> <p><b>Session Chair:</b> Virendra Singh</p>	<p><b>BCTPV-NIZK: Publicly-verifiable non-interactive zero-knowledge proof system from minimal blockchain assumptions</b> <i>Nimish Mishra and SK Hafizul Islam (IIIT Kalyani, India)</i></p> <p><b>Proof-of-Variable-Authority: A blockchain consensus mechanism for securing IoT networks</b> <i>Pavithra Rajan, Lenoah Chacko, Varun Anilkumar and Vinod Pathari (NIT Calicut, India)</i></p> <p><b>An Efficient Two-Party ECDSA Scheme for Cryptocurrencies</b> <i>Habeeb Syed, Arinjita Paul, Meena Singh and Rajan Ma (TCS Research &amp; Innovation Lab, India)</i></p> <p><b>Secure Smart Grid Data Aggregation Based on Fog Computing and Blockchain Technology</b> <i>Kamalakanta Sethi, Aniket Agrawal and Padmalochan Bera (IIIT Sri City, India)</i></p>

## Program for Day 4 (December 19, Tuesday)

09:30 - 10:30	<p><b>Session 9:</b> <b>Security using AI/ML</b></p> <p><b>Session Chair:</b> Chandrashekar Jatoth</p> <p><b>STN-Net: A Robust GAN-Generated Face Detector</b> <i>Tanusree Ghosh and Ruchira Naskar (IEST Shibpur, India)</i></p> <p><b>MDLDroid: Multimodal Deep Learning based Android Malware Detection</b> <i>Narendra Singh and Somanath Tripathy (IIT Patna, India)</i></p>
10:30 - 11:00	Tea Break
11:00 - 12:30	<p><b>Session 10:</b> <b>Security using AI/ML</b></p> <p><b>Session Chair:</b> Satya Prakash Sahu</p> <p><b>A Cycle-GAN Based Image Encoding Scheme for Privacy Enhanced Deep Neural Networks</b> <i>David Rodriguez and Ram Krishnan (University of Texas at San Antonio, USA)</i></p> <p><b>Secure KNN Computation On Cloud</b> <i>Tikaram Sanyashi, Nirmal Kumar Boran and Virendra Singh (NTNU, Norway)</i></p> <p><b>A Multi-Stage Multi-Modal Classification Model for DeepFakes Combining Deep Learned and Computer Vision Oriented Features</b> <i>Arnab Kumar Das, Soumik Mukhopadhyay, Arijit Dalui, Ritaban Bhattacharya and Ruchira Naskar (IEST Shibpur, India)</i></p>
12:30 - 14:00	Lunch Break
14:00 - 15:00	<p><b>Invited Talk</b></p> <p><b>Session Chair:</b> Vishwas Patil</p> <p><b>Covert &amp; Side Stories: Threats Evolution in Traditional and Modern Technologies (online)</b> <i>Mauro Conti (University of Padua, Italy and TU Delft, Netherlands)</i></p>
15:00 - 15:30	Tea Break
15:30 -	<p><b>ICISS 2023 Closing Ceremony</b> <i>Local Organising Committee of ICISS 2023</i></p>



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