Report on ISEA-ISAP 2020 @ IIT Guwahati

ISEA International Conference on Security & Privacy is a flagship event of Information Security Education and Awareness (ISEA), Ministry of electronics and Information Technology (MeitY), Government of India. This is an annual conference to provide a forum for the presentation of technological advances and research findings in security and privacy area. The third edition of ISEA International Conference on Security & Privacy (ISEA-ISAP 2020) was held at the Conference Center of IIT Guwahati from 27.02.2020 to 01.03.2020. The conference was inaugurated on 28.02.2020 by founder director IIT Guwahati, Prof D N Buragohain and Dr Jaideep Kumar Mishra (DG-NIELIT and JS-MeitY).

The conference program was a right mix of theoretical research papers as well as real-world case studies from academia, business and government. A total of 24 papers were selected for presentation by the technical program committee after a rigorous peer review process. The papers were presented in six technical sessions. The proceedings of the conference is published in IEEExplore. In addition to the regular papers, there were tutorials, keynote presentations by academic and defence experts, industry forum talks by leading researchers from premier multinational companies, doctoral dissertation presentation and Ph.D forum poster presentations by PhD scholars.

The keynote speakers include eminent researchers and technologists. There was keynote talk on all three days of the conference. On the first day Prof Guan Yong, Iowa State University gave a keynote on "A New Quality-Time-As-An-Advantage Paradigm for Zero-Pre-Configuration Pairing Schemes for IoT Devices/Networks". That day afternoon, Col. Indeerjeet Singh (retd.), Vara Tech Pvt. Ltd delivered invited talk on "AI in Cyber Defence". On the second day Prof. Prabhat Mishra, University of Florida delivered a keynote address on "Securing Hardware for Designing Trustworthy Systems". On the same day, Prof. Rami Puzis, Ben-Gurion University gave a talk titled "Mastering the Social Networks". On the final day Prof. Rajeev Barua, University of Maryland gave a keynote address on "Malware Analysis: Beating the Bad Guys". In addition, the conference featured two full day tutorials held on 27.02.2020 – "MITRE ATT&CKTM and Threat Intelligence", by Prof. Manikantan Srinivasan, IIT Madras and "Advanced Real World Pentesting" by Pentester Academy. On the same day, after the tutorials,

a pre-conference talk was given by Prof. Shuangqing Wei, Louisiana State University, USA on "Tradeoff between Disclosable and Private Latent Information Revealed via Compressed One: an ADMM-Based Approach". The conference program consisted of an industry forum on 29.02.2020, where the speakers are Bedanta Choudhury, NXP Semiconductors; Prabhu Kumar, Cisco; and Aditi Bhatnagar, Microsoft. The conference also showcased Vishleshakee: An online social media analytic tool, developed at OSINT Lab, IIT Guwahati.

On the side lines of the conference, an appraisal meeting of ISEA participating institutes was being held. The meeting was conducted by Prof. Sukumar Nandi, IIT Guwahati and Shri. Sanjay Kumar Vyas from MeitY. Prof. Prabhat Mishra from University of Florida was a special invitee. Around 42 members from ISEA institutes participated in the meeting. Review of ISEA related works in the respective institutes were done and action plan for next year was discussed.

A total of around 250 members attended the conference. This includes, 24 registered delegates, 45 ISEA institute representatives, 80 fellows, 30 volunteers, 15 organizing committee members, 15 invited speakers and close to 40 invited guests. In order to promote participation of young research scholars, 40 fellows were supported with partial travel funding, complimentary conference registration and free accommodation. A team of around 40 students from Central Institute of Technology, Kokrajhar, Assam attended the technical program on 29.02.2020 as part of a special fellowship scheme.

A cultural night was arranged on 28.02.2020 evening. Music and dance performances reflecting the cultural heritage of Northeast India in general and Assam in particular were showcased in front of the delegates. This was followed by a banquet dinner which was attended by around 250 members. Another banquet dinner was organized on 29.02.2020 after the industry forum session. IIT Guwahati campus community members who are associated with security research related domains were invited to this banquet.

The last day of the conference, 01.03.2020, was exclusively dedicated to Ph.D dissertation presentations and posters. At the end of the session, the valedictory function was held. Shri. Sanjay Kumar Vyas, Additional Director, HRD Division, MeiTY, presided over the function and Dr. Kamal Kath Nath, IT Secretary, Government of Assam, was the chief guest. Awards to recognize outstanding researchers in the field of security and privacy were distributed in the

function. Three category of awards allong with citation certificates were given; best paper awards, doctoral dissertation awards, PhD forum poster awards. Under the best paper category, Jiji Angel and Virendra Singh from IIT Bombay received the first prize (prize money of INR 25000) for the paper titled "On The DSA Key Recovery Attack with Variable Partial Nonces Known". Ram Charan Baishya and Dhruba Bhattacharyya from Tezpur University received the second prize (prize money of INR 15000) for the paper titled "Singleton Flow Traceback Mechanism". Apurva Kittur, Swapnil Kauthale and Alwyn Pais from NIT Surathkal, Karnataka received the third prize (prize money of INR 10000) for the paper titled "A LDPC codes based Authentication Scheme".

Under the doctoral dissertation award Dr. Shweta Bhandari received the first prize (prize money of INR 50000) and Dr. Nazrul Hoque received the second prize (prize money of INR 30000). Under the Ph.D Forum posters awards, Bhuvaneswari Amma N.G, Dilay Parmar, and Ramanuj Chouksey received the first (INR 5000), second (INR 3000) and third prize (INR 2000), respectively.

We thank ISEA project Phase - II of MeitY, Government of India for funding this conference and IEEE Kolakata chapter for the technical sponsorship that enabled us to publish the proceedings in IEEE Xplore. We are grateful to the Indian Institute of Technology Guwahati administration for extending all required logistic support to organize the event. We sincerely hope that this event becomes another invaluable link in the ISEA meetings, and a useful outlet for knowledge dissemination within the security and privacy groups.

Sukumar Nandi   15th May 2020
Genral Chair ISEA-ISAP 2020