

Suvadip Hazra

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CURRENT POSITION (February, 2024-Present)

Assistant Professor, Department of Computer Science & Engineering, IIIT Dharwad, India

CURRENT AREA OF RESEARCH

Hardware Security, Cellular Automata, Many-core system

Ph.D THESIS TITLE

Theory and Applications of Cellular Automata for Detection and Mitigation of Hardware Trojan Attacks Targeting Cache Performance in a Many-core System

ACADEMIC QUALIFICATION

- **Ph.D.**, Computer Science & Engineering, National Institute of Technology Durgapur, 2022
- **M.Tech**, Computer Science & Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, 2016
- **B.Tech**, Computer Science & Engineering, West Bengal University of Technology (WBUT), 2013

ACADEMIC ACHIEVEMENT

- Qualified UGC NET (June 2019) for Assistant Professor.
- Qualified GATE (2019) with score 374.
- Qualified GATE (2016) with score 429.
- Qualified GATE (2014) with score 533.

WORK EXPERIENCE

- Assistant Professor, Computer Science & Engineering Department, Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, India (1st July 2021- 13th February 2024)

CONTRIBUTION TO TEACHING

Theory Class taken: Algorithm Design, Data Structure.

Lab taken during M.Tech and Ph.D.: Data Structure & algorithms, DBMS, Digital Logic Design, Computer Organization & Architecture, VLSI, Introduction to programming using C, Cryptography.

RESEARCH CONTRIBUTION

JOURNAL PUBLICATIONS

1. **Hazra, S.**, Avinash, B. and Dalui, M., "Design, Threat Analysis and Countermeasure for a Hardware Trojan Targetting Real-Time Many-Core System", *Microelectronics Journal* (2023): 105973.
2. **Hazra, S.** and Dalui, M., "Exploring NSRT Diagram for Scalable Synthesis of TACA", *Journal of Cellular Automata* 17 (2023).
3. **Hazra, S.** and Dalui, M., 2020. "Ca-based detection of coherence exploiting hardware trojans". *Journal of Circuits, Systems and Computers*, 29(08), p.2050120.

4. **Hazra, S.** and Dalui, M., "Characterization of Single Length Cycle Two-Attractor Cellular Automata Using Next-State Rule Minterm Transition Diagram," *Complex Systems*, 31(4), 2022 pp. 363–388.
5. Benerjee, S., **Hazra, S.** and Dalui, M., "A generic framework of NSRTD for characterization of CA Rules in Constant (0/1) Boundary Conditions", accepted in *Complex Systems*.

CONFERENCE PUBLICATIONS

1. **Hazra, S.** and Dalui, M., "Synthesis of Single Length Cycle Two Attractor CA using NSRT Diagram", In *First Asian Symposium on Cellular Automata Technology*, (pp. 235-246), Springer, Singapore, 2022.
2. **Hazra, S.**, Avinash, B. and Dalui, M., 2020, July. Design, Threat Analysis and Countermeasure for a Cache Performance Affecting Hardware Trojan. In 2020 24th International Symposium on VLSI Design and Test (VDATE) (pp. 1-6). IEEE.
3. **Hazra, S.** and Dalui, M., 2019, March. Cellular Automata Based Solution for Detecting Hardware Trojan in CMPs. In International Conference on Information Technology and Applied Mathematics (pp. 644-655). Springer, Cham.
4. **Hazra, S.**, Sattenapalli, J.S., Roy, A. and Dalui, M., 2018, December. Evaluation and detection of hardware trojan for real-time many-core systems. In 2018 8th International Symposium on Embedded Computing and System Design (ISED) (pp. 31-36). IEEE.
5. Priya, S., **Hazra, S.**, Chakraborty, B. and Dalui, M., 2018, February. A Cellular Automata Based BIST for Detecting NPSFs in High Speed Memories. In Proceedings of the 2018 7th International Conference on Software and Computer Applications (pp. 306-311).
6. **Hazra, S.** and Om, H., 2016, February. A generalized password authentication scheme based on geometric properties. In 2016 2nd International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (AEEICB) (pp. 592-596). IEEE.

TRAINING & WORKS SHOP PARTICIPATED

1. One-week online Workshop on "Cellular Automata and Secured Hardware Design " at IEST Shibpur from 15-19 March 2021.
2. Workshop on "Education of Children with Special Needs (ECN 2019) " at NIT Durgapur from 12-13 July 2019.
3. Workshop on "Robotics and Assistive Technologies (RAT2019)" at NIT Durgapur from Janury 3-5, 2019.
4. Workshop on "Authors Workshop" organised by Wiley at NIT Durgapur on 9th October 2018.
5. TEQIP III sponsored one week short term course/workshop on "ETV II: Hardware Security and Its Applications" at NIT Durgapur from 6-10 March 2018.
6. Conference on "7th International Symposium on Embedded Computing & System Design (ISED 2017)" from 18-20 December, 2017 at NIT Durgapur.
7. One day symposium on "Machine Learning and its Applications" on 22nd March 2017 at NIT Durgapur".
8. Workshop on "Authors Workshop and Science Direct Training" at NIT Durgapur on 17th January 2017.
9. One-week short term course on "Methodology and Ethics in Research (STCMER2016)" at NIT Durgapur from 19-23 September 2016.