Dr. Arijit Nath
Assistant Professor
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Joined the Institute in July 2023

About

I am an Assistant Professor in the Department of CSE at Indian Institute of Information Technology, Guwahati. I joined IIITG in July, 2023. I did B.Tech from National Institute of Technology, Silchar; M.Tech from Tezpur University and PhD from IIT Guwahati in 2013, 2016 and 2023, respectively. My area of research is computer architecture with a special interest in the emerging memory technologies. Apart from professional activities, I like to play sports like tennis, table tennis and badminton. I am also a sincere learner of yoga and meditation.

Research Interests

1. Computer Architecture
2. Emerging Memory Technologies
3. Memory System Design

Teaching

At IIITG, I have taught the following courses:

1. IT Workshop I (Java Programming)
2. Computer Organization and Architecture

Publication

Conference

- Nishant Bharti*, Arijit Nath* (* equal contribution), Swati Upadhyay and Hemangee K. Kapoor, "ZOCHEN: Compression using Zero chain elimination and encoding to improve endurance of Non-volatile Memories", IEEE International Symposium on Quality Electronic Design (ISQED), (2023),
- Arijit Nath and Hemangee K. Kapoor., "CoSeP: Compression and Content-based Selection Procedure to improve lifetime of encrypted Non-Volatile Main Memories", The ACM Great Lakes Symposium on VLSI (GLSVLSI), (2022), ACM
- Arijit Nath and Hemangee K. Kapoor, "WELCOMF: wear leveling assisted compression using frequent words in non-volatile main memories", ACM/IEEE International Symposium on Low Power Electronics and Design (ISLPED), (2022),
- Arijit Nath, Manik B. Bhosle and H. K. Kapoor, "SeNonDiv: Securing Non-Volatile Memory using Hybrid Memory and Critical Data Diversion", 22nd International Symposium on Quality Electronic Design (ISQED), (2021),
- Arijit Nath and Hemangee K. Kapoor, "Write Variation aware Cache Partitioning for Improved Lifetime in Non-Volatile Caches", 32nd International Conference on VLSI Design (VLSID), (2019), IEEE
- AV Umdekar, A Nath, S Das, H.K Kapoor, "Dynamic thermal management by using task migration in conjunction with frequency scaling for chip multiprocessors", 31st International Conference on VLSI Design (VLSID), (2018), IEEE
- Swati Upadhyay, Arijit Nath and Hemangee K. Kapoor, "Exploiting Successive Identical Words and Differences with Dynamic Bases for Effective Compression in Non-Volatile Memories", (0),

Journal

- Arijit Nath and Hemangee K. Kapoor, "Pop-Crypt : Identification and Management of Popular Words for Enhancing Lifetime of EnCrypted Non-Volatile Main Memories", IEEE Transactions on on Very Large Scale Integration, (2022),
- Arijit Nath and Hemangee K. Kapoor, "CADEN: Compression Assisted ADaptive Encoding to improve lifetime of Encrypted Non-Volatile Main Memories", IEEE Embedded Systems Letters, (2022),
- Arijit Nath and Hemangee K. Kapoor, "SWEL-COFAE : Wear Leveling and Adaptive Encoding Assisted Compression of Frequent Words in Non-Volatile Main Memories", IEEE Transactions on Computers, (2021),
- Arijit Nath, Sukarn Agarwal and Hemangee K. Kapoor, "Reuse Distance based Victim Cache for Effective Utilisation of Hybrid Main Memory System", ACM Transactions on Design Automation of Electronic Systems (TODAES), (2020), ACM
- Arijit Nath and Nityananda Sarma, "A distributed solution for cooperative spectrum sensing scheduling in multi-band cognitive radio networks", Journal of Network and Computer Applications, (2017), Elsevier

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