

Sandeep Kumar

RESEARCH SCIENTIST @ INTEL LABS, BENGALURU, INDIA

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Research Interest

Operating Systems, Architecture, Compilers, Reinforcement Learning, Security, Distributed and Parallel Systems.

Publications

1. *Telescope: Telemetry for Gargantuan Memory Footprint Applications.*
Alan Nair, **Sandeep Kumar**, Aravinda Prasad, Ying Huang, Andy Rudoff, Sreenivas Subramoney.
In **USENIX ATC**, Santa Clara, USA, 2024.
2. *Taming Server Memory TCO with Multiple Software-Defined Compressed Tiers.*
Sandeep Kumar, Aravinda Prasad, Sreenivas Subramoney. In **Arxiv**, 2024.
3. *Managing Large Enclaves in a Data Center .*
Sandeep Kumar, Smruti R. Sarangi. In **Arxiv**, 2024.
4. *Perspector: Benchmarking Benchmark Suites .*
Sandeep Kumar, Abhisek Panda, Smruti R. Sarangi. In **DATE**, Antwerp, Belgium, 2023.
5. *Hardware-Assisted Mechanisms to Enforce Control Flow Integrity: A Comprehensive Survey.*
Sandeep Kumar, Diksha Moolchandani, Smruti R. Sarangi. In **Journal of Systems Architecture (JSA)**
6. *SecureLease: Maintaining Execution Control in The Wild using Intel SGX.*
Sandeep Kumar, Abhisek Panda, and Smruti R. Sarangi. In **Middleware**, Quebec City, Canada, 2022.
7. *SGXGauge: A Comprehensive Benchmark Suite for Intel SGX.*
Sandeep Kumar, Abhisek Panda, and Smruti R. Sarangi.. In **ISPASS**, Singapore, 2022.
8. *SecureFS: A Secure File System for Intel SGX.*
Sandeep Kumar and Smruti R. Sarangi. In **RAID**, Spain, 2021.
9. *Page Table Management for Heterogeneous Memory Systems.*
Sandeep Kumar, Aravinda Prasad, Smruti R. Sarangi, and Sreenivas Subramoney. In **ISMM**, Canada, 2021.
10. *F-LaaS: A Control-Flow-Attack Immune License-as-a-Service Model.*
Sandeep Kumar, Diksha Moolchandani, Takatsugu Ono, and Smruti Sarangi. In **IEEE SCC**, Milan, Italy, 2019.
11. *Towards a Portable Human Gait Analysis & Monitoring System .*
Sandeep Kumar, Poorna Talkad Sukumar, K. Gopinath, Dr. Jayanth Sampath, Laura Rocchi, and Suyameen-dra Kulkarni..In **IEEE ICSigSys**, Bali, Indonesia, 2018.
12. *Scalable Performance Tuning of Hadoop MapReduce: A Noisy Gradient Approach.*
Sandeep Kumar, Sindhu Padakandla, Chandrashekhar L, Priyank Parihar, Gopinath K, and Shalabh Bhatnagar.
In **IEEE Cloud**, Hawaii, USA, 2017.

Patent

1. Methods and apparatus to profile page tables for memory management. (Patent Pending)
Aravinda Prasad, **Sandeep Kumar**, Sreenivas Subramoney, and Andy Rudoff

Education

Indian Institute of Technology Delhi

DOCTOR OF PHILOSOPHY

- Advised by Prof. S. R. Sarangi

New Delhi, India

Jul. 2017 -

Indian Institute of Science

MASTER OF ENGINEERING IN COMPUTER SCIENCE

- Advised by Prof. K. Gopinath

Bangalore, India

Jul. 2011 - Aug. 2013

Guru Gobind Singh Indraprastha University

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE

New Delhi, India

Jul. 2007 - Aug. 2011

Work Experience

Intel Labs

RESEARCH SCIENTIST

- Working on developing methods and tools for a better synergy between the hardware and the software.

Bangalore, Karnataka

March 2022 -

Intel Labs

GRADUATE RESEARCH INTERN

- Worked on improving the kernel support for Intel Optane DC NVMM.

Bangalore, Karnataka

July 2020- Jan 2021

Indian Institute of Science

RESEARCH ASSOCIATE

- Worked on auto tuning of Hadoop Map-reduce using Stochastic algorithms and Human gait analysis.

Bangalore, Karnataka

Sept 2014- July 2017

Dell R&D

SOFTWARE DEVELOPMENT ENGINEER

- Responsible for BIOS configuration and system management tools, DCC (Dell Command Configure) and OMCI (Open Manage Client Instrumentation) respectively

Bangalore, India

Jul 2013-Jun 2014

Interests & Activities

Reading books

Goodreads profile:

<https://goodreads.com/sandeep007734>

Running, Cycling, and Hiking

Strava profile:

<https://www.strava.com/athletes/sandeep007734>

References

Prof. Smruti R. Sarangi

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Computer Science and Automation

Indian Institute of Science, Bangalore, India