Sandeep **Kumar**

PH.D. STUDENT

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Education

Indian Institute of Technology Delhi *New Delhi, India*
DOCTOR OF PHILOSOPHY *Jul. 2017 -*
- Advised by Prof. S. R. Sarangi

Indian Institute of Science *Bangalore, India*
MASTER OF ENGINEERING IN COMPUTER SCIENCE *Jul. 2011 - Aug. 2013*
- Advised by Prof. K. Gopinath

Guru Gobind Singh Indraprastha Univeristy *New Delhi, India*
BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE *Jul. 2007 - Aug. 2011*

Research Interest

System Security, Operating Systems, Distributed and Parallel Systems.

Selected Publications

1. **Sandeep Kumar**, Abhisek Panda, and Smruti R. Sarangi. SecureLease: Maintaining Execution Control in The Wild using Intel SGX. In **Middleware** 2022, Quebec City, Canada.

2. **Sandeep Kumar**, Abhisek Panda, and Smruti R. Sarangi. SGXGauge: A Comprehensive Benchmark Suite for Intel SGX. In International Symposium on Performance Analysis of Systems and Software (**ISPASS**), Singapore, 2022.

3. **Sandeep Kumar** and Smruti R. Sarangi. SecureFS: A Secure File System for Intel SGX. In **RAID**, Spain, 2021.

4. **Sandeep Kumar**, Aravinda Prasad, Smruti R. Sarangi, and Sreenivas Subramoney. Page Table Management for Heterogeneous Memory Systems . In **ISMM**, Virtual, Canada, 2021.

5. **Sandeep Kumar**, Diksha Moolchandani, Takatsugu Ono, and Smruti Sarangi. *F-LaaS: A Control-Flow-Attack Immune License-as-a-Service Model* . In **IEEE SCC**, Milan, Italy, 2019.

6. **Sandeep Kuma**r, Poorna Talkad Sukumar, K. Gopinath, Dr. Jayanth Sampath, Laura Rocchi, and Suyameendra Kulkarni. *Towards a Portable Human Gait Analysis & Monitoring System* . In **IEEE ICSigSys**, Bali, Indonesia, 2018.

7. **Sandeep Kumar**, Sindhu Padakandla, Chandrashekar L, Priyank Parihar, Gopinath K, and Shalabh Bhatnagar. *Scalable Performance Tuning of Hadoop MapReduce: A Noisy Gradient Approach* . 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, Andy Rudoff

Work Experience

Intel Labs *Bangalore, Karnataka*
GRADUATE RESEARCH INTERN *July 2020- Jan 2021*
- Worked on improving the kernel support for Intel Optane DC NVMM.

Indian Institute of Science *Bangalore, Karnataka*

RESEARCH ASSOCIATE *Sept 2014- July 2017*

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

Dell R&D *Bangalore, India*

SOFTWARE DEVELOPMENT ENGINEER *Jul 2013-Jun 2014*

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

Selected Projects

Toy C Compiler

COURSE PROJECT FOR COMPILER DESIGN *8*

- Implemented a Toy C Compiler using Flex Bison and LLVM as part of the Compiler Course Work. It contains LLVM IR code generation and implementation of some basic optimizations.

Distributed Computing

COURSE PROJECT

- Wrote Distributed Programs to solve TSP (Travelling sales man problem), ABP (Alpha Beta pruning search) and MST (Minimum spanning tree) using rpcgen in C++ and showed a speed up of factor 9, 6 and 2.5 respectively when the number of servers went up from 1 to 6.

Honors & Awards

2018	**Research grant**, Visit to Kyushu University for research collaboration	*Fukuoka, Japan*
2017	**Scholarship**, Visvesvaraya PhD Scheme for Electronics & IT	*New Delhi, India*
2011	**642 Rank in GATE**, Graduate Aptitude Test in Engineering Exam(Total Students: 136,027)	*New Delhi, India*

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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Department of Computer Science

Indian Institute of Technology Delhi, New Delhi, India

Prof. K. Gopinath

Professor

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Computer Science and Automation

Indian Institute of Science, Bangalore, India