

Sandeep Kumar

PHD STUDENT

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Education

Indian Institute of Technology Delhi

DOCTOR OF PHILOSOPHY

New Delhi, India

Jul. 2017 -

- Advised by Prof. S. R. Sarangi

Indian Institute of Science

MASTER OF ENGINEERING IN COMPUTER SCIENCE

Bangalore, India

Jul. 2011 - Aug. 2013

- Advised by Prof. K. Gopinath

Guru Gobind Singh Indraprastha University

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE

New Delhi, India

Jul. 2007 - Aug. 2011

Research Interest

Security, Operating Systems, Distributed and Parallel Systems.

Selected Publications

1. **Sandeep Kumar** and Smruti R. Sarangi. SecureFS: A Secure File System for Intel SGX. In **RAID**, Spain, 2021.
2. **Sandeep Kumar**, Aravinda Prasad, Smruti R. Sarangi, and Sreenivas Subramoney. Page Table Management for Heterogeneous Memory Systems . In **ISMM**, Virtual, Canada, 2021.
3. **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.
4. **Sandeep Kumar**, Poorna Talkad Sukumar, K. Gopinath, Dr. Jayanth Sampath, Laura Rocchi, Suyameendra Kulkarni. *Towards a Portable Human Gait Analysis & Monitoring System* . In **IEEE ICSigSys**, Bali, Indonesia, 2018.
5. **Sandeep Kumar**, Sindhu Padakandla, Chandrashekhar L, Priyank Parihar, Gopinath K, Shalabh Bhatnagar. *Scalable Performance Tuning of Hadoop MapReduce: A Noisy Gradient Approach* . In **IEEE Cloud**, Hawaii, USA, 2017.

Work Experience

Intel Labs

GRADUATE RESEARCH INTERN

Bangalore, Karnataka

July 2020- Jan 2021

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

Indian Institute of Science

RESEARCH ASSOCIATE

Bangalore, Karnataka

Sept 2014- July 2017

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

Dell R&D

SOFTWARE DEVELOPMENT ENGINEER

Bangalore, India

Jul 2013-Jun 2014

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

Research Projects

Toy C Compiler

COURSE PROJECT FOR COMPILER DESIGN

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- 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:// goo.gl/bEjjJJ>

Running, Cycling, and Occasional Hiking trips

Strava profile: <https:// goo.gl/F1ow46>

References

Prof. Smruti R Sarangi

Associate Professor

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Department of Computer Science

Indian Institute of Technology Delhi, New Delhi, India

Prof. K. Gopinath

Professor

gopi@iisc.ac.in

Computer Science and Automation

Indian Institute of Science, Bangalore, India