

# Sandeep Kumar

PH.D. STUDENT

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## 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 Univeristy

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, Chandrashekar 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

- 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

# Research Projects

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## 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

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

# Interests & Activities

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## Reading books

Goodreads profile: <https://goo.gl/bEjjJJ>

## Running, Cycling, and Occasional Hiking trips

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

# References

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## Prof. Smruti R Sarangi

Associate Professor

[srsarangi@cse.iitd.ac.in](mailto:srsarangi@cse.iitd.ac.in)

*Department of Computer Science*

*Indian Institute of Technology Delhi, New Delhi, India*

## Prof. K. Gopinath

Professor

[gopi@iisc.ac.in](mailto:gopi@iisc.ac.in)

*Computer Science and Automation*

*Indian Institute of Science, Bangalore, India*