

Harsha Sharma

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EDUCATION

IIT ROORKEE

2ND YEAR BTECH IN ENGINEERING
 PHYSICS

Expected May 2020

Cum. GPA: 7.59/10

12TH C.B.S.E

May 2016 | MGPS, Jaipur

Percentage: 95.2 / 100.0

10TH C.B.S.E

May 2014 | MGPS, Jaipur

CGPA: 9.8/10

LINKS

Github:// [hs256](#)

LinkedIn:// [harsha-sharma-a5085012b](#)

Twitter:// [@harshasharma256](#)

FIELDS OF INTEREST

Operating Systems

Computer Architecture

Compiler Design

Microprocessors and Peripheral Devices

Computer Networking

Information and Network Security

Web Development

COURSEWORK

UNDERGRADUATE

Microprocessors and Peripheral Devices

Computer Programming

Engineering Analysis and Design

Analog and Digital Electronics

Optimization Techniques

Electrical Science

Signals and Systems

Numerical Computation

Fuzzy Set and Theory

SKILLS

C • C++ • Python • Fortran

GDB • IDA • Autotools •

Parsers • Vim • Matlab

Linux Kernel Development •

Genode Framework •

L4 Fiasco Microkernel •

PHP • MySQL

INTERNSHIPS

RESEARCH INTERN AT TECHNICAL UNIVERSITY OF MUNICH |

PROJECT - CHECKPOINT AND RESTORE MECHANISM IN GENODE AND L4
 FIASCO MICROKERNEL [REPORT]

14th May, 2018 - 27th July, 2018

- Reverse engineering and debugging for comparing capability map in Genode and capability space in kernel before checkpointing and after restoring states
- Implemented custom IRQ session for signal handler session in Genode
- Worked on checkpointing and restoring missing IRQ capabilities.

GOOGLE SUMMER OF CODE STUDENT DEVELOPER | PROJECT - NETFILTER (LINUX KERNEL NETWORK FIREWALLING)

14th May, 2018 - 14th August 2018

- Work on implementing connection tracking timeout policies in nftables.
- Addition, deletion and listing of connection tracking timeout objects and assigning timeout policy via nftables rule.

LINUX-KERNEL INTERN IN OUTREACHY | PROJECT - NFTABLES

5th Dec 2017 - 5th March 2018

- 4 interns selected worldwide in Linux-kernel organisation.
- Implemented unique u64 handles for tables, chains and all objects for easy lookup and deletion.
- Improving test infrastructure and major bug fixes.

PROJECTS

BACKDOOR | SDSLABS, IITR

- Information security platform for practice and organizing regular internationally-well known CTF contests.
- Written in PHP based on MVC architecture and uses Memcache for caching.

BEAST | AUTOMATED, CONTAINERIZED CHALLENGE DEPLOYMENT

- Docker based tool to automate deployment of challenge containers spawned individually for each user.

ACTIVITIES

- Presented work on implementing connection tracking timeout policies in NFWS18 (Netfilter Conference), Berlin.
- Speaker at "How to crack GSOC and Outreachy" talk in IIT Roorkee

SOFTWARE DEVELOPMENT SECTION, IIT ROORKEE

- I am active member of SDS Labs, an awesome group of students constantly striving to innovate and foster technical activities at IIT Roorkee. Some of our projects are hosted on github: github.com/sdslabs.

CHOREOGRAPHY & DANCE SECTION, IIT ROORKEE

- Member of official Choreography and Dance Section, IIT Roorkee.

REFERENCES

1. **PROF. DR. UWE BAUMGARTEN**
Associate Professor,
Chair of Operating Systems,
Technical University of Munich,
Munich, Germany
baumgaru@tum.de
2. **PROF. PABLO NEIRA AYUSO**
Professor, University of Seville,
Head of Netfilter Organisation
pablo@netfilter.org