

Harsha Sharma

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EDUCATION

IIT ROORKEE

PRE-FINAL YEAR BTECH
ENGINEERING PHYSICS
Expected May 2020

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

Network Security

SKILLS

C • C++ • Python • Fortran

GDB • IDA • Autotools •

Parsers • Vim • Matlab

Linux Kernel Development •

Genode Framework •

L4 Fiasco Microkernel •

PHP • Mysql

REFERENCES

Prof. Dr. Uwe Baumgarten

Associate Professor,
Chair of Operating Systems,
Technical University of Munich,
Munich, Germany
baumgaru@tum.de

Prof. Pablo Neira Ayuso

Professor, University of Seville,
Head of Netfilter Organisation
pablo@netfilter.org

INTERNSHIPS

TECHNICAL UNIVERSITY OF MUNICH

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 SDSLabs, 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.