Harsha Sharma

http://harshasharma.in
harshasharmaiitr@gmail.com | harsh.uph2016@iitr.ac.in

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
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
Mathematical Physics

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 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.

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