

## Research Interests

I am broadly interested in systems research, with an emphasis on Operating and Distributed systems and emerging hardware architectures. The central theme of my current work is to employ a hardware-software co-design approach to develop secure systems that scale well and are resilient to failures.

## Education

- 2021–Present **Ph.D.**, *Technical University of Munich*, Munich, Germany.
- Computer Science and Engineering
  - Advisor: Dr. Pramod Bhatotia
- 2020–2021 **Master of Science by Research**, *The University of Edinburgh*, Edinburgh, UK.
- Computer Science
  - Advisor: Dr. Pramod Bhatotia, Dr. Antonio Barbalace
- 2015–2019 **Bachelor of Technology**, *Indian Institute of Technology Dhanbad*, Dhanbad, India.
- Electronics and Communication Engineering

## Publications

- SIGMOD'22 **Harshavardhan Unnibhavi**, David Cerdeira, Antonio Barbalace, Nuno Santos and Pramod Bhatotia. Secure and Policy-Compliant Query Processing on Heterogeneous Computational Storage Architectures. In Proceedings of the 2022 International Conference on Management of Data.
- EuroSys'22 Jörg Thalheim, Peter Okelmann, **Harshavardhan Unnibhavi**, Redha Guicem and Pramod Bhatotia. VMSH: Hypervisor-agnostic Guest Overlays for VMs. In Proceedings of the Seventeenth European Conference on Computer Systems (EuroSys).
- EuroSys'21 Jörg Thalheim, **Harshavardhan Unnibhavi**, Christian Priebe, Pramod Bhatotia, and Peter Pietzuch. Rkt-io: a direct I/O stack for shielded execution. In Proceedings of the Sixteenth European Conference on Computer Systems (EuroSys).

## Experience

- 2021–Present **Research Assistant**, *Technical University of Munich*, Munich, Germany.
- Mentor: Dr. Pramod Bhatotia
- 2021 **Intern**, *QEMU*, Google Summer of Code (GSoC), Remote.
- Mentor: Stefano Garzarella, Fabiano Fidêncio
- 2019 **Research Assistant**, *Indian Institute of Science*, Bengaluru, India.
- Mentor: Dr. Yogesh Simmhan
- 2018 **Research Assistant**, *Simon Fraser University*, Burnaby, Canada.
- Mentor: Dr. Ivan V. Bajic

## Talks

- 2022 **IronSafe: A Secure and Policy-Compliant Query Processing Architecture**, *SIGMOD '22*.
- 2022 **IronSafe: A Secure and Policy-Compliant Query Processing Architecture**, *MSR Cambridge*.
- Host: Dr. Kapil Vaswani
- 2021 **Development of a vhost-user-vsock application**, *Redhat*.
- Host: Stefano Garzarella

## Awards and Honors

- 2018 Mitacs Globalink Fellowship
- 2015 KVPY Fellowship

## Technical Skills

Areas Operating Systems, Virtualization, Computer Architecture, Trusted Computing

Languages Rust, C, Python, C++

## References

**Prof. Pramod Bhatotia,**  
TU Munich,  
pramod.bhatotia@in.tum.de.

**Prof. Antonio Barbalace,**  
The University of Edinburgh,  
antonio.barbalace@ed.ac.uk.

**Prof. Nuno Santos,**  
INESC-ID Lisbon,  
nuno.m.santos@tecnico.ulisboa.pt.