

# Ankur Sharma

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<https://bigdata.uni-saarland.de/people/sharma.php>

## EDUCATION

### SAARLAND UNIVERSITY

Ph.D.

Oct 2014 - June 2020  
Big Data Analytics Group  
Saarbruecken, Germany  
Grade: Summa Cum Laude

### TU DRESDEN

Visiting Student, ZIH

May 2013 - Sept 2014  
Dresden, Germany

### NIT SIKKIM

B.Tech. in Computer Science

Aug 2010 - Sept 2014  
Ravangala (Sikkim), India  
Cum. GPA: 9.15/10.00  
Institute Gold Medal

## LINKS

Github:// [shankur](#)  
LinkedIn:// [shankur](#)

### GRADUATE

Distributed Systems  
Operating Systems  
Database Systems  
Compiler Construction  
Optimization

### UNDERGRADUATE

Mobile Computing  
Internet & Web Apps  
Compiler/Interpreter  
Data Structure & Algorithms

## SKILLS

### PROGRAMMING

> 5000 lines:  
C++ • GO • Java  
> 1000 lines:  
C • BASH • Javascript • Python  
Familiar:  
GIT • SQL • Docker • Kubernetes

## AWARDS

2014 • Graduate Fellowship  
2014 • Undergraduate Gold Medals  
2013 • DAAD WISE Fellowship  
2012 • IITB Research Fellowship

## EXPERIENCE

### SAARLAND UNIVERSITY POSTDOCTORAL RESEARCHER

June 2020 - Present | Saarbruecken, Germany  
As a lead of chainifyDB, I am developing the core, managing our back-end and front-end developers, and also business developers to bring chainifyDB to market by Q3 2021.

### SAARLAND UNIVERSITY RESEARCH ASSISTANT

April 2016 - June 2020 | Saarbruecken, Germany  
Worked on the development and optimization of main-memory database systems and permissioned blockchain system under the umbrella of multiple projects for my Ph.D.

### TU DRESDEN UNDERGRADUATE RESEARCH ASSISTANT

May 2013 - Sep 2014 | Dresden, Germany  
Analyzed performance bottlenecks and performed algorithmic optimizations in HPC applications such as Trinity RNA-Seq Assembler.

## PROJECTS

### CHAINIFYDB TRANSFORM DB INTO BLOCKCHAIN SYSTEM

Jan 2019 - Present | Published at CIDR'2021  
Designed and developed the distributed architecture of chainifyDB that allows customers to transform their existing database infrastructure into a permissioned blockchain system. chainifyDB ensures zero down-time, end-to-end encryption, and as low as 17% performance overhead on the underlying database system.

### FABRIC++ OPTIMIZING PERMISSIONED-BLOCKCHAIN SYSTEMS

Jan 2018 - Oct 2018 | Published at SIGMOD'2019  
Integrated MVCC and TransactionReordering into Hyperledger Fabric, improving the transaction throughput by up to 12x for contended workloads.

### ANKERDB HYBRID OLTP/OLAP PROCESSING

Apr 2016 - Dec 2017 | Published at PVLDB'2016 and SIGMOD'2018  
Integrated a new system-call inside Linux-kernel to create snapshots of virtual memory. Designed and developed a prototype main-memory, column-store database system that exploits the snapshot system call, to execute analytical workloads under serializable isolation-level at the cost of read-uncommitted isolation level in MVCC.

## PUBLICATIONS

- [1] Felix Martin Schuhknecht, Ankur Sharma, Jens Dittrich, and Divya Agrawal. chainifydb: How to get rid of your blockchain and use your dbms instead. In CIDR The Conference on Innovative Data Systems Research, Jan 11-15 2021, 2021.
- [2] Ankur Sharma, Felix Martin Schuhknecht, Divya Agrawal, and Jens Dittrich. Blurring the lines between blockchains and database systems: the case of hyperledger fabric. In SIGMOD Conference 2019, Amsterdam, The Netherlands, June 30 - July 5, 2019., pages 105–122, 2019.
- [3] Ankur Sharma, Felix Martin Schuhknecht, and Jens Dittrich. Accelerating analytical processing in MVCC using fine-granular high-frequency virtual snapshotting. In SIGMOD Conference 2018, Houston, TX, USA, June 10-15, 2018, pages 245–258, 2018.
- [4] Felix Martin Schuhknecht, Jens Dittrich, and Ankur Sharma. RUMA has it: Rewired user-space memory access is possible! PVLDB, 9(10):768–779, 2016.