

# Ankur Sharma

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## EDUCATION

### SAARLAND UNIVERSITY

#### PH.D. IN COMPUTER SCIENCE

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](#)

## COURSE-WORK

### GRADUATE

Distributed Systems

Operating Systems

Database Systems

Compiler Construction

### UNDERGRADUATE

Internet & Web Apps

Data Structure & Algorithms

## SKILLS

### PROGRAMMING

> 5000 lines:

C++ • Go

> 1000 lines:

C • Java • Bash • Python

Familiar Technologies:

Git • SQL • Docker • Kubernetes

gRPC • Database-internals • Kafka

Hybrid OLTP/OLAP • Blockchain

## GRANTS & AWARDS

2020 • StartUpSecure EUR 840,000

2014 • Graduate Fellowship

2014 • Undergraduate Gold Medals

2013 • DAAD WISE Fellowship

2012 • IITB Research Fellowship

## EXPERIENCE

### CHAINIFYDB Co-FOUNDER | TECHNICAL LEAD

Mar 2020 - Present | Saarbruecken, Germany

Responsible for the technical development, leading back-end developers, and managing the business activities to bring chainifyDB to market by Q3 2021.

### SAARLAND UNIVERSITY DOCTORAL RESEARCH ASSISTANT

Apr 2016 - Feb 2020 | Saarbruecken, Germany

Worked on the development and optimization of main-memory OLTP and permissioned blockchain systems under the umbrella of several 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 | Project Leader | Patent Pending

Designed and developed the distributed architecture of chainifyDB that allows us to transform a set of existing databases into a blockchain system ensuring zero down-time, e2e encryption, and only 17% overhead on the underlying database system.

Tech-Stack: Go | Docker | Kubernetes | gRPC | protobuf | Kafka | SQL | Git | CI/CD

### FABRIC++ OPTIMIZING PERMISSIONED-BLOCKCHAIN SYSTEMS

Jan 2018 - Oct 2018 | Published at SIGMOD'2019

Integrated MVCC with early aborts and transaction-reordering into Hyperledger Fabric to improve the transactional throughput by up to 12x for contended workloads.

Tech-Stack: Go | C++ | Bash | NodeJS | Docker | gRPC | protobuf | Kafka | Git

### ANKERDB HYBRID OLTP/OLAP PROCESSING

Apr 2016 - Dec 2017 | Published at PVLDB'2016 and SIGMOD'2018

Extended Linux-kernel to support virtual memory snapshotting. Developed a prototype main-memory DBMS to exploit snapshotting and reduce the scanning-overhead in MVCC due to random accesses, bringing down the latency by 4x.

Tech-Stack: C | C++ | Column-stores | MVCC | Kernel development | Git | GDB | Perf Database-internals | Transaction processing | Main-memory snapshotting

## 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 2020, 10th Conference on Innovative Data Systems Research, Amsterdam, The Netherlands, January 12-15, 2020, Online Proceedings. [www.cidrdb.org](http://www.cidrdb.org), 2020.
- [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 ACM SIGMOD 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 ACM SIGMOD 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.