Ankur Sharma

https://bigdata.uni-saarland.de/people/sharma.php
ankur.sharma@bigdata.uni-saarland.de | (+49) 17 33 00 771

EDUCATION

SAARLAND UNIVERSITY
Ph.D. Student
Oct 2014 - now
Big Data Analytics Group
Saarbruecken, Germany

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/Department Gold Medals

LINKS

Github:// sh-ankur
LinkedIn:// ankursh92

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 • Python
1000 lines:
C • BASH • Javascript
Familiar:
GIT • SVN • SQL • Spark • Flink

AWARDS

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

PROJECTS

CHAINIFYDB Transaction Processing in Blockchain Systems
Jan 2019 – Present | Under Submission at SIGMOD'2020
We are developing a platform that is capable of transforming an existing Database Infrastructure in a B2B setup into a Blockchain Infrastructure. The goal of this project is to make the blockchain technology usable without actually adding an all-new blockchain infrastructure into the business's technology stack.

FABRIC++ Transaction Processing in Blockchain Systems
Jan 2018 – Oct 2018 | Published at SIGMOD'2019
We integrated MVCC and TransactionReordering in Hyperledger Fabric, which improved transaction throughput by more than 12x for the highly contended workload.

ANKERDB Hybrid OLTP/OLAP Processing
Apr 2016 – Dec 2017 | Published at PVLDB'2016 and SIGMOD'2018
We implemented an efficient mechanism (user-level and inside the Linux) to snapshot the virtual memory area, which is used to extend MVCC to support efficient analytical/transactional workload in main-memory database systems.

PUBLICATIONS

[1] 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.

[2] 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.

[3] Felix Martin Schuhknecht, Jens Dittrich, and Ankur Sharma. RUMA has it: Rewired user-space memory access is possible! PVLDB, 9(10):768–779, 2016.

[4] Ankur Sharma, Felix Martin Schuhknecht, and Jens Dittrich. The case for automatic database administration using deep reinforcement learning. CoRR, abs/1801.05643, 2018.

EXPERIENCE

SAARLAND UNIVERSITY Research Assistant
April 2016 - Present | Saarbruecken, Germany
Developing technology for efficient transaction processing and memory management in Database Systems and Permissioned Blockchain Systems.

TU DRESDEN Undergraduate Research Assistant
May 2013 - Sep 2014 | Dresden, Germany
Developed methods for performance analysis and optimization of HPC applications.

IIT BOMBAY Undergraduate Research Intern
May 2012 - Jul 2012 | Mumbai, India
Developed lightweight java-based XML parser for in-house Android applications used at IIT Bombay.