

## Erfan Zamanian

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**INTERESTS**      ◇ Data Management Systems                      ◇ Cloud Computing  
                         ◇ Distributed Systems                                      ◇ Systems for Analytics and Data Science

**EDUCATION**      **Ph.D. in Computer Science**                                      *Sep 2014 - Exp. Mar 2020*  
Brown University, Providence, USA  
GPA: 4.0/4.0, Concentration: Data Management

**M.Sc. in Computer Science**    *Sep 2014 - May 2016*  
Brown University, Providence, USA  
GPA: 4.0/4.0, Concentration: Data Management

**M.Sc. in Computer Science**    *Sep 2010 - Jan 2013*  
ETH Zürich, Switzerland  
GPA: 5.5/6, Concentration : Information Systems

**B.Sc. in Computer Science**    *Sep 2005 - May 2010*  
Sharif University of Technology, Tehran, Iran  
GPA: 17.50/20

**EXPERIENCE**      **Software Developer Intern**    *Jun 2015-Sep 2015*  
Employer: Oracle, Redwood Shores, USA.  
Worked in R&D team on the design of a distributed transactional key value store.

**Co-lecturer and Grad TA of “Introduction to Data Science”** *Sep 2015-Jan 2016*  
Employer: Brown University, Providence, USA.  
Topics: Data cleaning, visualization, clustering/classification, Scalable ML, Spark.

**Instructor of “Novel Concepts of Big Data”**    *Sep 2013-Jan 2014*  
Employer: DHBW State University, Mannheim, Germany  
Topics: big data tools, covering data warehousing, Hadoop, Hive and Pig.

**Research Assistant and Instructor**    *May 2013-May 2014*  
Employer: DHBW State University, Mannheim, Germany  
Worked on the open source Big Data analytics engine XDB.

**HONORS & AWARDS**      Graduate School Fellowship (Brown University, USA)                                      *2014*  
Best ACM SIGMOD Demo award for “DoomDB: Kill the Query” (Utah, USA) *2014*  
“Excellence Scholarship & Opportunity Award” for the master’s studies,      *2010-12*  
offered annually to top master students (ETH Zürich, Switzerland)  
Ranked 173<sup>rd</sup> in the nationwide university entrance exam,                                      *2005*  
in Math and Physics discipline, among more than 450,000 participants, Iran

**PUBLICATIONS** *Chiller: Contention-centric Transaction Execution and Data Partitioning for Modern Networks*, SIGMOD 2020 [\[Link\]](#)

*Rethinking database high availability with RDMA networks*, VLDB 2019 [\[Link\]](#)

*The end of a myth: distributed transactions can scale*, VLDB 2017 [\[Link\]](#)

*The end of slow networks: its time for a redesign*, VLDB 2016 [\[Link\]](#)

*Locality-aware partitioning in parallel database systems*, ACM SIGMOD, 2015 [\[Link\]](#)

*Crowd access path optimization: diversity matters*, HCOMP 2015 [\[Link\]](#)

*Cost-based fault-tolerance for parallel data processing*, ACM SIGMOD, 2015 [\[Link\]](#)

*Spotgres - parallel data analytics on spot instances*, IEEE ICDE, 2015 [\[Link\]](#)

*I-Store: data management for fast networks*, NEDB, 2015 [\[Link\]](#)

*XDB: a novel database for data analytics as a service*, ACM SoCC, 2013 [\[Link\]](#)

*DoomDB - kill the query*, ACM SIGMOD 2014 [\[Link\]](#)

**SELECTED PROJECTS**

**Replicated Distributed-memory Key Value Store** - at Oracle  
 Designed and implemented a replicated lock-free KV store which provides multi-key atomic operations. It combines Fast Paxos and Disk Paxos (C++).

**High-performance Transaction Processing over RDMA**  
 Designed a distributed transaction processing system with InfiniBand as interconnect that leverages RDMA to provide optimized distributed transactions with replication (C++).

**Open source database XDB** [\[Code\]](#) [\[PDF\]](#)  
 Contributed to the development of a parallel processing engine for Big Data on clusters of commodity machines, implemented as a middleware on top of single node MySQL instances.

**Flight Delays Predictor using Twitter data** [\[PDF\]](#)  
 Using the flight data provided by Amadeus, compared various ML techniques (NB, decision trees, linear regression) on Twitter data to predict flight delays (Java, Hadoop MR).

**TECHNICAL SKILLS**

**Programming** C++, Python  
**Machine Learning** TensorFlow, MATLAB  
**Web Tech.** JavaScript, D3, PHP, CSS, XML, JSP  
**Frameworks** Hadoop MapReduce, Google Web Toolkit  
**Other tools** L<sup>A</sup>T<sub>E</sub>X, Gnuplot

**REFERENCES**

**Professor Tim Kraska**  
 Professor of Computer Science at MIT  
 kraska@mit.edu

**Professor Carsten Binnig**  
 Professor of Computer Science at TU Darmstadt  
 carsten.binnig@cs.tu-darmstadt.de

**Dr. Garret Swart**  
 Principal Architect at Oracle  
 garret.swart@oracle.com