

# Erfan Zamanian

---

erfanz@cs.brown.edu  
<https://cs.brown.edu/people/erfanz/>  
10 Creighton St., Providence, RI 02906  
+1 401 648 5676

## INTERESTS

Data Management Systems  
Distributed Systems  
Data Science

## EDUCATION

**Ph.D. in Computer Science** *Sep 2014 - Exp. May 2019*  
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

## SELECTED PUBLICATIONS

*The End of a Myth: Distributed Transactions can Scale*, VLDB 2017 [PDF]

*The End of Slow Networks: Its Time for a Redesign*, VLDB 2016 [PDF]

*Locality-aware partitioning in parallel database systems*, ACM SIGMOD, 2015 [PDF]

*Crowd Access Path Optimization: Diversity Matters*, HCOMP 2015 [PDF]

*Cost-based Fault-tolerance for Parallel Data Processing*, ACM SIGMOD, 2015 [PDF]

*Spotgres - Parallel Data Analytics on Spot Instances*, IEEE ICDE, 2015 [PDF]

*I-Store: Data Management for Fast Networks*, NEDB, 2015 [PDF]

*XDB: A novel Database for Data Analytics as a Service*, ACM SoCC, 2013 [PDF]

*DoomDB - Kill the Query*, ACM SIGMOD 2014 [PDF]

## 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++).

**Transaction Processing over RDMA** [Code] [PDF]  
Designed a distributed transaction processing system with InfiniBand as interconnect that leverages RDMA to provide optimized distributed transactions (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. It brings elasticity and fault tolerance to computation (Java).

**Flight Delays Predictor using Twitter data** [PDF]

Using the massive flight data provided by Amadeus, performed machine learning analyses (naive Bayes, decision trees, linear regression models) on large Twitter datasets to predict flight delays (Java, Hadoop MapReduce).

**WORK EXPERIENCE**

**Co-lecturer and Head TA of “Introduction to Data Science”** *Sep 2015-Jan 2016*

Employer: Brown University, Providence, U.S.A.

Topics include: Data integration and cleaning, visualizations using D3, clustering and classification, scaling ML algorithms, Spark

**Software Developer Intern**

*Jun 2015-Sep 2015*

Employer: Oracle, Redwood Shores, U.S.A.

Worked in R&D team on the design of a distributed transactional key value store.

**Instructor of “Novel Concepts of Big Data”**

*Sep 2013-Jan 2014*

Employer: DHBW State University, Mannheim, Germany

Held a course lab on Big Data tools, covering data warehousing, MapReduce Hadoop, Hive and Pig. [course content]

**Research Assistant and Instructor**

*May 2013-May 2014*

Employer: DHBW State University, Mannheim, Germany

Worked on the open source Big Data analytics engine XDB.

**TECHNICAL SKILLS**

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

**HONORS & AWARDS**

“DoomDB: Kill the Query” won the best ACM SIGMOD 2014 Demo Award *2014*

Won *Excellence Scholarship & Opportunity Award* for the master’s studies, *2010-12*  
The only CS student of the class 2010 who was granted the scholarship offered annually to top master students among all majors, ETH Zürich, Switzerland

Ranked 173<sup>rd</sup> in the nationwide university entrance exam, *Jul 2005*  
in Math and Physics Discipline, among more than 450,000 participants, Iran