

Mohammad Dashti

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Strengths:

- Full stack developer
- Data management and analytics specialist
- Strong analytical and abstract thinking

Education

- 2012 - Today PhD. in the field of Database Systems, School of Computer and Communication Sciences, École Polytechnique Fédérale de Lausanne (**EPFL**), Switzerland. PhD thesis advisor: [Prof. Christoph Koch](#)
- 2010 - 2012 MSc. in Information Technology Engineering, Computer Engineering Department, **Sharif University of Technology**, Tehran, Iran, GPA: 19.19/20. M.Sc. thesis advisor: [Prof. Jafar Habibi](#)
- 2006 - 2010 BSc. in Information Technology Engineering, Computer Engineering Department, **Sharif University of Technology**, Tehran, Iran, GPA: 18.14/20

Professional Experience

- 2016 ★ **Microsoft Research**, Redmond, Washington, USA (3-month internship, May – August 2016)
Research intern in the [Orleans Project](#), which is a framework that provides a straightforward approach to building distributed high-scale computing applications.
- 2012-2016 ✧ **EPFL**, Lausanne, Switzerland, Teaching Assistant
Worked on various DB projects during my PhD and was a teacher assistant in **Big Data, Software Engineering, Functional Programming** and **IT Security** courses with more than 120 students.
- 2009-2012 ◆ **Sharif Enterprise Software**, Tehran, Iran
Worked as the **head JavaEE developer** for extending, customizing and localizing [Project.net](#), which is an open source project management software. I was the main developer that planned, developed and maintained the project and handled the special requirements from customers of the system. In addition, I developed several DevOps tools and automated scripts to facilitate the maintenance of the project.
- 2008-2009 ☆ **System Group Company**, Tehran, Iran
Worked as a **JavaEE developer** in the Java Enterprise Software Development team. I developed several main components of a CRM application in this team.
- 2007-2012 ☼ **Sharif Processors Company**, Tehran, Iran
Worked as the project manager and the main developer in the enterprise software development team that analyzes, designs and implements information systems. For several projects, I did the whole software development life-cycle, from customer acquisition and requirement analysis to development and maintenance.

Technical Skills

Programming Languages	Java (as a professional and my number one language) , Scala, C/C++, C# (.NET), JavaScript, HTML, CSS, SQL, PHP, Python
Web Dev	Spring, Hibernate, Symfony, jQuery, ExtJS
Database Systems	Relational: Oracle DB, MySQL, PostgreSQL / NoSQL: HBase, MongoDB Very good understanding of general database design, optimization and configuration
Tools	Hadoop, Yarn, Spark, SVN, Git, Maven, LaTeX, JUnit, JDBC, Cordova/PhoneGap
Software Development	Scrum Master / Agile Coach

Main Projects

- 2016 ★ **Orleans** ([dotnet.github.io/orleans](#)): a framework that provides a straightforward approach to building distributed high-scale computing applications. Mentored by [Dr. Phil Bernstein](#), I added indexing and query functionality to project Orleans.
- 2015 ✧ **Multi-Version Concurrency Control with Closures (MV3C)**: I designed a novel concurrency control technique and implemented it in Scala and C++. MV3C inter-operates with other MVCC protocols, and is best suited for high contention scenarios, as it has an efficient conflict resolution mechanism.
- 2014 ✧ **FS-Store**: I built a transaction processing system that exploits compilation techniques to optimize transaction programs for achieving the performance comparable to the hand-optimized low-level code.

- 2013 ✧ **DBToaster** (dbtoaster.org): an SQL-to-native-code compiler. It generates lightweight, specialized, embeddable query engines for applications that require real-time, low-latency data processing and monitoring capabilities. I am an active contributor to this project.
- 2013 ✧ **Lightweight Modular Staging (LMS)** (github.com/epfldata/lms): a compilation framework that provides a library of core components for building high performance code generators and embedded compilers in Scala. I am a contributor to this open-source project.
- 2011 ⚡ **End-User Report Builder (EURB)** (github.com/mdashti/EURB): a web-based software tool for end-users to build and format their reports from their distributed databases. I am the main developer and maintainer of this project. The copies of this project was sold to several customers including the Ministry of Education in Iran.
- 2011 ⚡ **Network Map Editor (NME)**: a tool for documenting and simulating physical network layer of a large computer network, e.g., a country's telecommunication infrastructure. I solely designed and developed it.
- 2010 ⚡ **Atash Firewall**: a personal firewall for MS Windows. Special features in this firewall are “application window control”, “low-level network access”, “Network-enabled application launch”, and “Detecting a change in an executable”. I was a key developer and designer in this project.
- 2010 ⚡ **General Automatic Application Updater (GAAU)**: a programmable tool for the automation of the installation and update processes of distributed software systems. I designed and implemented this tool. It was used in the customized Project.net project.
- 2009 ⚡ **Project.net**: an open source JavaEE project management software. I was the main developer in a private branch of this project that planned, developed and maintained the project and handled the special requirements from commercial customers of the system.
- 2009 ⚡ **SIAMRA**: a web-based Information System for Iran Computer Museum. It automated the internal processes of the museum as well as serving the clients. I was the main developer in this project.
- 2008 ⚡ **SPY Task Manager**: a task manager for small and medium-sized businesses that I built from scratch.
- 2008 ⚡ **DForum**: an online discussion forum written in PHP Symfony framework. I was a key developer.
- 2007 ⚡ **Moragheb**: an e-Health national project for automating the processes related to controlling the health issues in Iran. This was my first commercial project that I developed by myself from scratch using JBoss Seam framework.

* The symbol beside each project shows its connection to the corresponding “Professional Experience” with the same symbol.

Honors

- 2012 Awarded **EPFL Graduate Fellowship** in recognition to my academic excellence.
- 2012 Recipient of the **Permission to Develop a Software Project as Mandatory Military Service** from Iran's “National Elites Foundation”.
- 2010 Awarded **Exceptional Talent Fellowship** for the M.Sc. Program in Information Technology Engineering from Computer Engineering Department of Sharif University of Technology
- 2007 **First Place** in the first **Sharif Java Challenge**, Sharif University of Technology.
- 2006 **First Place** in the **National Skills Competition**, Major: Information Technology.

Technical Interests

- Large-scale Web Application Development
- Scalable Online Stream Processing
- High Performance and Scalable Distributed Systems
- Automation Tools for DevOps

Speaking Languages

English: Fluent, C2 equivalent / Persian: Mother Tongue / French: Basic proficiency, A2 equivalent

Main Publications

Mohammad Dashti, Sachin Basil John, Amir Shaikhha, and Christoph Koch. “Transaction Repair for Multi-Version Concurrency Control”. SIGMOD 2017.

Philip A. Bernstein, Mohammad Dashti, Tim Kiefer, and David Maier. “Indexing in an Actor-Oriented Database”. CIDR 2017.

Milos Nikolic, Mohammad Dashti, and Christoph Koch. “How to Win a Hot Dog Eating Contest: Distributed Incremental View Maintenance with Batch Updates”. SIGMOD 2016.

The detailed list, including the rest of my publications, is available at [in linkedin.com/in/mdashti](https://www.linkedin.com/in/mdashti)