

# Francisco Perez-Sorrosal

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## Profile and Objectives

I am a resourceful and flexible software engineer with research experience in both, the professional IT sector and academia. I am self-motivated, well-organized, responsible and proactive. My areas of expertise are distributed and transactional systems. In the forthcoming projects in my career, I would like to continue focusing my energies on scalable cloud computing, big data and mobile platforms. I want to sharpen my skills to become a respected research engineer and a technical leader in a position offering new challenges and opportunities in a multidisciplinary and multicultural environment.

## Professional Experience

2015–Now **Research Engineer**, *Search @ Yahoo Inc.*, Sunnyvale.

**Sieve**, *Scalable Content Ingestion Platform*, 2015, **Roles**: Distributed Systems Expert, Research Engineer.

- Add High Availability to Omid
- Scale Omid in multi-core architectures
- Support Omid transaction manager project in Sieve production infrastructure
- Support Omid as open-source project (<https://github.com/yahoo/omid>)

2012–2015 **Research Engineer**, *Yahoo Labs.*, Spain.

**Omid**, *Transaction Manager for Big Datastores.*, 2014, **Roles**: Distributed Systems Expert, Research Software Engineer.

- Re-architect original codebase/Implementation of new features
- Support integration in Sieve project
- Presentation and poster at Yahoo's Techpulse Conf. 2014

**Edentity/Pachiderm**, *Ubiquitous content access and management of personal data (images, video...) held on 3rd party services (Flickr, GDrive, Dropbox...)*, 2014, **Roles**: Distributed Systems Expert, Research Engineer.

- Design and implementation of a scalable synchronization module
- REST API definition and implementation for each module defined (User Registration, Search, Content Fetching)

**RiddlR**, *Percolator-like incremental processing system.*, 2013, **Roles**: Distributed Systems Expert, Research Engineer.

- Prototype and example application implementation
- Poster at Yahoo's Techpulse Conf. 2013

**CumuloNimbo**, *7th European Framework Programme (FP7-257993)*, 2012–2013, **Roles**: Distributed Systems Expert, Research Engineer.

- Design and implementation of a prototype of an incremental processing system for Big Datastores
- Provide durability to HBase through BookKeeper
- Represent Yahoo in project meetings and evaluation

2011–2012 **Architect**, *Lumata*, Spain.

SONY Socialife application. High Scalable Big-Data Backend Platform for web and social content ingestion and aggregation

**Giddra Project**, 2012, **Roles**: Architect.

- Architectural definition of the platform
- Team coordination
- REST API definition for allowing clients to access the backend

2010–2011 **Freelance Software Architect/Engineer**, *Local Greenhouse Cooperative in Zaragoza*, Spain.

Analysis, design and Ruby/Rails implementation of a web application to manage the different domains of a greenhouse farm. LoC  $\approx$  20.000

2003–2010 **Software Architect/Research Engineer**, *School of CS at Univ. Politécnica de Madrid (UPM)*, Spain.

Participation in European and national research projects that included the analysis, design, implementation and testing of middleware architectures and applications. *Detailed achievements in projects*:

**NEXOF-RA: NESSI Open Framework - Reference Architecture**, *7th European Framework Programme (FP7-216446)*, 2008–2010, **Roles**: Software Architect.

- Contribution to a reference architecture (RA) for a European service platform. Specification of a set of architectural patterns for non-functional attributes and analysis of how to integrate cloud platforms in the RA.

**Highly Scalable Platform for the Construction of Dependable and Ubiquitous Services**, *Spanish Ministry of Education and Science (TIN2007-67353-C02)*, 2007–2010, **Roles**: Software Engineer.

- Analysis and tests of consistency problems that arise in end-user applications when second-level caches (e.g. Coherence, JBoss cache, etc.) are combined with object persistence mechanisms (e.g. Hibernate)

**High Performance Distributed Systems**, *Community of Madrid (S-0505/TIC/000285)*, 2006–2009, **Roles**: Software Architect, Software Engineer.

- Development of a high-available and scalable service for the JOnAS J(2)EE application server. It provided high availability for critical applications deployed in application server clusters, scaling-out the cluster when is overloaded. UPM & BULL signed a pre-agreement to include it in the commercial version. LoC Java (HA&S Service)  $\approx$  4.000

**S4ALL (Services for All)**, 5th European Framework Programme (IST-2001-37126), 2005–2007, **Roles:** Software Architect, Software Engineer.

- Development of a high-available service for the JOnAS application server maintained by Bull SAS (France). Available since v.4.8. LoC Java (JOnAS)  $\simeq$  150.000

**AUTONOMIC: Autonomic, Dependable and Middleware for Scalable, Distributed, Ubiquitous and Highly Available e-Services**, Spanish Ministry of Education and Science (TIN2004-07474-C02-01), 2004–2007, **Roles:** Software Architect, Software Engineer.

- Open-source reference implementation of the WS-CAF specification for adding transactions to SOAP Web Services. LoC  $\simeq$  50.000

**ADAPT: Middleware for Adaptive and Composable Distributed Components**, EUREKA/ ITEA project (Label 04025), 2002–2005, **Roles:** Software Architect, Software Engineer.

- Implementation of a transactional-aware replication architecture for stateful EJBs for JBoss. LoC Java  $\simeq$  10.600

- Open-source implementation of the Activity Service specification to add advanced transactions models to J2EE. LoC Java  $\simeq$  10.000

2001–2003 **Lecturer**, School of CS at Universidad Pontificia de Salamanca (Madrid Campus), Spain.

Courses on Operating Systems and Programming (C and Pascal)

2000–2001 **Systems Administrator**, School of CS at Universidad Pontificia de Salamanca (Madrid Campus), Spain.

Management and maintenance of UNIX/Linux servers and Windows workstations: task automation, security etc.

1999–1999 **Quality Analyst**, Meta 4 S.A., Madrid, Spain.

Quality tests to the DBMS's connection modules of the Meta 4 products: test analysis, execution and bug report.

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## Research Experience

2003–2011 **Researcher**, School of CS at Universidad Politécnica de Madrid (UPM), Spain.

Detailed achievements:

**Ph.D. Thesis**, *Middleware for High Available and Scalable Multi-Tier and Service-Oriented Architectures*, 2003–2009, Advisors: Prof. Marta Patiño-Martínez and Prof. Ricardo Jiménez-Péris (UPM).

**Fields/Topics:** *Distributed Systems, Transactional Systems, Scalability, High Availability, SOAs*

- Development of a brand-new approach to provide high availability and scalability to multi-tier architectures by combining snapshot-isolation and an innovative vertical replication approach.

**Research Internship**, SARDES Research Group at INRIA Grenoble (France), 2007, Advisor: Prof. Sara Bouchenak.

- Integration of self-configuration and self-repair properties of autonomic computing in the core of a cloud platform.

**Publications in top conferences and journals.**

- *Elastic SI-Cache: Consistent and Scalable Caching in Multi-Tier Architectures*. In VLDB Journal, 2011 **12 Citations**

- *Scalability Evaluation of the Replication Support of JOnAS, an Industrial J2EE Application Server*. In EDCC Conf., Valencia (Spain), 2010 **6 Citations**

- *A System of Architectural Patterns for Scalable, Consistent and Highly Available Multi-tier Service Oriented Infrastructure*. In Architecting Dependable Systems VI, Springer, 2009 **9 Citations**

- *Consistent and Scalable Cache Replication for Multi-tier J2EE Applications*. In ACM/IFIP/USENIX Middleware Conf., CA (USA), 2007 **34 Citations**

- *WS-Replication: A Framework for Highly Available Web Services*. In ACM WWW Conf., Edinburgh, 2006 **161 Citations**

- *Highly Available Long Running Transactions and Activities for J2EE Applications*. In IEEE ICDCS Conf., Lisbon (Portugal), 2006 **20 Citations**

- *ZenFlow: A Visual Tool for Web Service Composition*. In IEEE VL/HCC Conf., Dallas (USA), 2005 **38 Citations**

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## Technical Skills

O.O. design	UML, patterns, agile techniques
Lang. & Fmwk.	Java, JUnit/TestNG, ZooKeeper, Android, Scala, JEE, JBoss, JOnAS, Hibernate, Oracle Coherence, JBoss Cache, Ruby on Rails
C.I. tools	GIT/SVN/CVS, Maven, Gerrit, Ant, Open-source repositories (e.g. GitHub, SourceForge, Objectweb)
O.S. admin.	GNU/Linux, Mac OS X and other UNIX flavors, Android, iOS, Windows
DBMS	HBase, PostgreSQL, MySQL, SQLite, MongoDB
Cloud & Virt.	Google App. Engine, Heroku, VMWare, Virtual Box, Parallels
Misc.	Eclipse, IntelliJ, JProfiler, Emacs, Vi, UNIX shell scripting, L <sup>A</sup> T <sub>E</sub> X, HTML, basic Javascript & AJAX, Apache HTTP and Tomcat

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## Education

2011 **Certificate of Training, Advanced Scala**, Typesafe, Switzerland.

2011 **Certificate of Training, Scala**, Typesafe, Switzerland.

2011 **Course in Business Administration and Economics (268 hours)**, Funded by Community of Madrid, Spain.

2003-2009 **Ph.D. in CS**, School of CS at Universidad Politécnica de Madrid (UPM), Spain.

2004 **Postgraduate Certificate in Education**, Educational Sciences Institute at Universidad Complutense de Madrid (UCM), Spain.

1994–2001 **B.Eng & M.Sc. in CS**, School of CS at Universidad Pontificia de Salamanca (Madrid Campus), Spain.

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## Communication Skills

Talks and presentations at various international and national conferences and also in internal research and project meetings in companies. Also taught several courses to undergraduate and Ph.D. students at University.

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## Languages

Spanish	Mother tongue	French	Intermediate listening, reading & speaking skills
English	Fluency in written and spoken English	Catalan	Intermediate listening, reading & speaking skills

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## Other Activities Related to Computer Science

### Reviewer in International Conferences.

- IEEE International Symposium on Reliable Distributed Systems (SRDS), 2008 and 2009
- IEEE International conference in Distributed Computing Systems (ICDCS), 2009
- International Conference on Parallel and Distributed Computing (Europar), 2007 and 2010
- ACM Symposium on Applied Computing (SAC), 2008 and 2010
- International Conference on Service-Oriented Computing (ICSOC), 2009
- EDBTs International Workshop on Data Management in Peer-to-peer Systems (DAMAP), 2009
- International Workshop on Assurance in Distributed Systems and Networks (ADSN), 2010

### Attendee.

- IEEE International Symposium on Reliable Distributed Systems (SRDS), 4-7th Oct. 2011, Madrid (Spain)
- World Wide Web Conference, 20-24th Apr. 2009, Madrid (Spain)
- Spanish Conference on Concurrency and Distributed Systems, 13-16th Sep. 2005, Granada (Spain)
- ObjectWebCon'05, 17-20th Jan. 2005, Lyon (France)
- ObjectWeb's Workshop on Transactions, 23-24th Feb. 2004, Grenoble (France)
- ObjectWeb's Architecture Meeting, 13-15th Jan. 2004, Sevilla (Spain)

### Member.

- ObjectWeb Consortium, <http://www.ow2.org>
- Java Community Process program (JCP), <http://jcp.org>

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## Hobbies and Interests

Mountain bike, running, hiking, assembling puzzles, tennis, football, basketball, reading, traveling, learning new stuff