

# Ioannis Polyzos (R&D Cloud Architect / PhD Candidate)

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## CONTACT INFORMATION

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## PROFILE

I am a hands-on Principal Architect professional, working in highly distributed systems where high-availability, scalability and fault-tolerance are of major importance. I have 10+ years of experience working on all parts of the Software Development life-cycle and I would like to continue the hands-on and comprehensive approach of my career to date. I enjoy working on challenging projects with emerging technologies and keeping the heads up with the latest technological advancements.

## TECHNICAL SKILLS (EXTENSIVE)

**Programming Languages:** Java/JEE, Go, Groovy, Clojure, Erlang, Scala (*novice*), Python, C/C++, PHP, Ruby (*novice*).

**Operating Systems:** Windows (98, 2000, XP, 7 & 10 ), Linux (Gentoo, Debian and Fedora), BSD (FreeBSD) & MacOSX.

**Architectural styles & patterns:** Microservices, Service-Oriented Architecture (SOA), Event-Driven Architecture (EDA), Staged Event-Driven Architecture (SEDA), Enterprise Service Bus (ESB) Architectures, Big Data Architectures, Three-tier Architecture, Cloud Native Applications Architectures.

**Cluster managers & Cloud Platforms:** Kubernetes, Apache Mesos, Cloud Foundry, Kubernetes , Nomad

**Integration Approaches & Frameworks:** Enterprise Application Integration (EAI), Service-Oriented Integration (SOI), Enterprise Integration Patterns (EIP), Apache Camel, Spring Integration.

**OSGi Technologies & Containers :** Apache Felix, Eclipse Equinox, Apache Karaf, Fuse Fabric, Apache Aries (Blueprint), Apache iPojo, BND, Pax Exam, Pax Construct , Pax Logging

**Data Grids:** Hazelcast, Coherence.

**Messaging and Message Brokers (JMX, AMPQ):** Apache ActiveMQ, Fuse MQ, Apache Apollo, RabbitMQ, Apache QPid, WebsphereMQ, JBoss A-MQ, Apache Kafka, Kestrel(*novice*), NSQ.

**Application servers:** JBoss AS, IBM Websphere, BEA Weblogic, WebSphere Process Server.

**Web servers & servlet containers:** Apache HTTPD, LightHTTPd, Nginx, Apache Tomcat, Mortbay Jetty.

**Relational and Object DBMs:** Oracle, MySQL, PostgreSQL, DB2, Cloudscape & Derby, HSQLDB, SQLite.

**Column Oriented DBs:** Apache Cassandra, Apache HBase.

**Key-value stores:** Redis, BerkeleyDB.

**Document oriented DBs:** MongoDB, CouchDB.

**Enterprise Service Bus (ESB):** Apache ServiceMix, Fuse ESB, WebSphere ESB, Mule ESB.

**Stream Processing:** Storm, Flume.

**Dependency Injection Frameworks:** Spring & Google Guice.

**Object Relational Mapping:** Hibernate, Open JPA , Apache iBatis

**Continuous Integration Tools:** Atlassian Bamboo, Hudson, Jenkins, Apache Continuum (*novice*)

**Testing frameworks (unit & mock):** JUnit, Easymock, Mockito

**Extensible Markup Language (XML):** XSD, XSLT, XPath, XQuery

**Build Process Tools:** Maven, Ant, SBT, leiningen, Grandle

**Code Reviews:** Atlassian Crucible

**Agile Methodologies:** Scrum, eXtreme Programming (XP) , Rational Unified Process (RUP), Dynamic Systems Development Method (DSDM), Feature-driven development (FDD)

**Web Services (XML-RPC, SOAP & REST) :** JAX-WS, JAX-RS, Apache CXF, Apache Axis, Restlet, JBoss RESTEasy

**Source Code Management:** GIT, Subversion (SVN), Concurrent Versions System (CVS).

**Cloud Providers:** Google Cloud, Amazon AWS, Microsoft Azure, Rackspace, Soft Layer.

**Other:** Terraform, Vault, Apache CloudStack, Scalr, MapReduce (Hadoop), Service-Component Architecture (SCA) - Apache Tuscany, Test-driven development (TDD), Behavior-driven development (BDD), Enterprise Java Beans (EJB 2.x & 3.x), Aspect-Oriented Programming (AspectJ), RMI, CORBA(JacORB), Gearman, Business Process Execution Language (BPEL), Spring MVC, Apache Struts (1.x & 2.x), Java Server Faces (JSF), Apache Wicket, Unified Modeling Language (UML), JMeter, Apache Bench, Tuxedo, EDIFACT , SMPP, Kannel, SoapUI, LoadUI, Eclipse profiler, YourKit, Cobbler, Ceph.

## WORK EXPERIENCE

**Feb 2019 - current**

**Principal Architect**

**Finastra** ([link](#))

Working as a hands-on *Principal Architect* leading the development of the next generation of the company's platform based on managed services. I am working on further build and improving characteristics such as high-availability, scalability and fault-tolerance of the platform. Areas of focus include the design and development of new systems to

improve resource-utilisation and the integration with in-premise and client systems while also mentoring the teams through the use and further development of emerging services.

**Aug 2017 - Feb 2019**

**R&D Cloud Architect**

Finastra ([link](#))

After the merge of Misys and D+H into Finastra I have continued to work as a hands-on *R&D Cloud Architect* leading the next generation of the company's platform. My work involved the move to a new provider and focused on improving the resource utilization and expansion of the platform offerings through integration and use of emerging managed services and the existing ecosystem while.

**Feb 2017 - Aug 2017**

**R&D Cloud Architect**

Misys ([link](#))

Worked as a hands-on *R&D Cloud Architect* leading a greenfield vision that revisits the entire landscape of the company, replacing any incumbent technology that no longer meets the ever increasing needs of today. Scope of the work includes: design and architecture of a bespoke cloud computing platform to operate on top of leading cloud providers (e.g. AWS, Azure & GCP) and provide global on demand access to the full range of SaaS services (including DB, messaging, cache, SCM, CI, storage etc.). My role is leading this effort and fully hands on also acting as a platform and language agnostic contributor, while providing PoCs, developing, maintaining and improving systems that increase properties such as high-availability, scalability and fault-tolerance of the platform and mentoring the team.

**Sep 2015 - Feb 2017**

**Vice President, R&D Cloud Architect**

JPMorgan Chase & Co ([link](#))

Worked in a new role in the company as a hands-on *R&D Cloud Architect* in the Cloud Development team. I was focusing on research and the future directions with upcoming technologies for the next generation of the bespoke cloud platform.

**Sep 2014 - Sep 2015**

**Vice President, Cloud Services Architect**

JPMorgan Chase & Co ([link](#))

Worked as a *Cloud Services Architect* in the Cloud Development team developing a greenfield vision that revisits the entire hardware and software landscape of the company, replacing any and all incumbent technology that no longer meets the ever increasing needs. Scope of the work includes: datacenter & rack design, provisioning and automation, software-defined networking, firewalls and storage, PaaS (e.g. AWS, Google App Engine) and the full range of SaaS (including DB, messaging, cache, SCM, CI, storage etc.). My role was platform and language agnostic and focused on the PaaS layer, delivering new services and maintain/improve high-availability, scalability and fault-tolerance of the the bespoke platform.

**Aug 2009 - Oct 2014**

**Junior Researcher**

Voterlab - Complex Distributed Systems Group (CODS) ([link](#))

Combined with my Ph.D research I participated as a Junior Researcher in the Complex Distributed Systems Group (CODS) of Distributed and Pervasive Systems Initiative (DPSI). Focused on large-scale Distributed Systems, Cloud Computing and Service-Oriented Architectures.

**Apr 2014 - Sep 2014**

**Senior Consulting Engineer**

Monitise ([link](#))

Worked as a Senior Consulting Engineer at Monitise. Acting as a subject matter expert provided professional services focused on the design and architecture of elastic cloud computing platform and services for mobile financial services using OSGI based integration products such as fabric8.

**Aug 2013 - Aug 2014**

**Principal Software Engineer / Architect**

InPS ([link](#))

Worked as a *Principal Software Engineer/Architect* in InPS. Mainly focused on the design and architecture of a new elastic cloud computing platform. The platform hosts Software-as-a-Service (SaaS) products and a middleware solution that integrates health care entities in the U.K. with the National Health Service (NHS). The project aims to support more than 3000 GPs, 7000 pharmacies and several hospitals. As per the requirements it is designed to support more than 1200 requests p/s as an average load and a user base of more than 2000 users. My role involved designing, prototyping and developing the cloud computing platform and the relevant services supporting it. I was particularly focused on the architecture and the areas of reliability, fault-tolerance and high-scalability of the system.

**Feb 2013 - Aug 2013**

**Senior Software Engineer**

InPS ([link](#))

Worked as a *Senior Software Engineer* in InPS. Mainly focused on the design and architecture of a new elastic cloud computing platform. The platform hosts a middleware solution that integrates health care entities in the U.K with the National Health Service (NHS). The project aims to support more than 3000 GPs, 7000 pharmacies and several hospitals. As per the requirements it is designed to support more than 800 requests p/s as an average load and a user base of more than 1000 users. My role involved designing, prototyping and developing of the cloud computing platform and the relevant services supporting it. I was particularly focusing on the architecture and the areas of reliability, fault-tolerance and high-scalability of the system.

**Nov 2012 - Feb 2013**

**Senior Software Engineer / Architect**

Kuato Studios ([link](#))

Worked as a *Senior Software Engineer / Architect* in Kuato Studios. My role focused on the design and architecture of the game platform in order to support the target of 15 million users and involved researching cutting edge technologies, designing and developing of cloud computing based software prototypes and solutions. Particularly focused on the areas of reliability, fault-tolerance and high-scalability targeting high-performance middle-ware systems that are about to constitute the core services of the new game platform.

**October 2011 - Nov 2012**

**Software Development Engineer**

Expedia ([link](#))

Worked as a *Software Development Engineer II* in the *Platform* team of the [EAN](#) group in [Expedia](#) Inc. Mainly focused on researching cutting edge technologies, designed and developed of cloud computing based software prototypes and solutions. Particularly focused on the areas of reliability, fault-tolerance and high-scalability targeting high-performance middleware systems that were about to constitute the core services of the new *TravelCloud Platform*.

**May 2011 - Aug 2011**

**Senior Software Engineer**

Chrush Eukairia ([link](#))

Worked as a Software Engineer in the Golden Group team in Chrush Eukairia. Mainly focused on architecture design and development of software solutions for high-performance scalable web projects and services.

**Nov 2009 – Mar 2011**

**Software Engineer**

Velti S.A. ([link](#))

Worked as a Software Engineer in the Mobile Marketing and Advertising Operators team in Velti S.A.. Mainly focused on architecture design and development of software solutions for integration projects (particularly middle-ware systems and ESB-based architectures) for integration between Velti's MGage & MMP systems with operators environments, micro-sites and custom services. The main projects I had worked on included solutions developed for some of the leading telecoms companies in EMEA such as Orange France, Orange Spain, Aear Tr (and others) and dealing with high loads of messages per day (in the million).

**Feb 2008 – Nov 2009**

**Software Engineer**

Intrasoft International. ([link](#))

Worked as a group member of the Software Development team of the Multi-Annual Strategic Plan (MASP.BE) project for Belgium Customs. Mainly focused on the development of integration architectures and solutions using Service-Oriented Architecture (SOA) and Service-Oriented Integration (SOI) as well as the design and development of Software Services in the Java/JEE service component layer (EJB).

**Jun 2004 - Sept 2004**

**Network Support Engineer**

Siemens. ([link](#))

Worked as a group member of the technical support team of the Olympic Games Security network for Siemens. Mostly focused on administration and support of equipment, servers and clients of the C4I system.

**Jun 2002 - Sept 2005**

**Web developer**

Freelance

Worked as web developer for small and medium sized web sites on PHP. My role was mainly focused on the development of new systems or maintenance, enhancement and integration of legacy systems.

**Jun 2001 – Jun 2002**

**Web developer**

Computer Space

Worked as a junior developer mainly developing small sized dynamic web sites based on PHP.

CONTRIBUTION

vagranetes : Multi-Node Kubernetes Deployment on Vagrant. ([link](#))

vagranet-kube : Single-Node Kubernetes Deployment on Vagrant. ([link](#))

terraform-azurerm-acsc : Terraform module for the Azure Access Control Service (ACS). ([link](#))

acs-engine-kubernetes-osba-installer: Open Service Broker for Azure (OSBA) on ACS-Engine Kubernetes deployment installer. ([link](#))

cloudkarafka-broker : Open Service Broker for managed Apache Kafka servers in the cloud. ([link](#))

elephantsql-broker : Open Service Broker for managed PostgreSQL servers in the cloud. ([link](#))

cloudamqp-broker: Open Service Broker for managed HA RabbitMQ servers in the cloud. ([link](#))

MongoDB Atlas Broker: Open Service Broker for MongoDB databases as a Cloud Foundry service. ([source](#))

Ansible Spiff: Ansible module for declarative BOSH deployment manifest builder "Spiff". ([source](#))

Camel-Kafka : An Apache Camel component that enable camel to use Apache Kafka for high performance messaging communications. ([jira](#), [source](#), [blog](#))

Camel-Gora : an Apache Camel component that integrate camel with Apache Gora leveraging the use of NoSQL databases. (Dec 2013) ([jira](#), [source](#), [blog](#))

Camel-Hazelcast : *an Apache Camel component that makes use of Hazelcast in-memory data-grid to scale out camel routes.* (Jan 2011) ( [jira](#), [source](#), [contrib\\_source](#), [doc](#) )

Architecture Testing team on the Gentoo Linux distribution for the AMD64 platform. (Dec 2007 - present).  
(currently inactive) ([link](#))

## EDUCATION

**August 2009 – paused**

**PhD in Computer Science** (part-time)

Glasgow Caledonian University ([link](#))

Topic of research : “Agent-based dynamic resource allocation in cloud computing”.

**2006 – 2007**

**MSc in Enterprise System Development**

Glasgow Caledonian University ([link](#))

Thesis title : “AutoScale: A Prototype Application To Automatically Scale Legacy Servers Using AOP and SOA”.

**2004 – 2006**

**BSc in Computer Science**

University of Exeter ([link](#))

(Bachelor with Honors)

**2002 – 2004**

**HND in Computing**

Edexcel and University of Huddersfield ([link](#))

(joint programme held in Omiros College)

**2002 – 2004**

**IEK in Networks and automated systems.**

Omiros College ([link](#))

(Greek qualification equivalent to HND)

## PUBLICATIONS

Ioannis Polyzos and Huaglory Tianfield (2010). A Prototype Implementation of Map/Reduce Model on Message-Oriented Middleware. *Proceedings of 2010 IEEE International Conference on Systems, Man, and Cybernetics (SMC'10)*, Turkey, 10-13 October 2010, 7 pages

Ioannis Polyzos and Huaglory Tianfield (2008). AutoScale: A Prototype Application To Automatically Scale Legacy Servers Using AOP and SOA. *Communications of SIWN, Vol. 5*, August 2008, pp. 134-145

## CERTIFICATION & TRAINING

LinuxFoundation LFS158x: Introduction to Kubernetes. ([certificate](#))

Management and Leadership : Leading a Team - Open University. ([certificate](#))

Microsoft Azure Essentials. ([certificate](#))

AWS Essentials. ([certificate](#))

Ansible and Amazon Web Services. ([certificate](#))

AWS Concepts. ([certificate](#))

OSGi Training - London. ([link](#))

CloudStack Bootcamp Training Course. ([link](#))

Cloud Foundry Open Tour, 2012, London. ([link](#))

LSCITS/SICSA Cloud Computing Summer School 2011. (winning team project, [link](#))

2nd PerAda Summer School on Pervasive Adaptation. ([link](#), [team\\_presentation](#))

IBM SW519DE - Developing Applications with Service-Oriented Architecture. ([link](#))

## ATTENDANCE (CONFERENCES & SEMINARS)

Available upon request.

## REFERENCES

Available upon request.