

# Mohammed Makhoul

Software Architect

Cyber Security Architect

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## Summary

I am an experienced Software Design Engineer / Architect, with a passionate interest in software, security and large scale data pipeline systems. I have a solid track record of delivering quality software and shipping products on-time, in many diverse fields, and I have led many software engineering teams as both a Technical Lead and Engineering Manager. I have contributed to open-source software, written for government magazines, mentored junior engineers, given customer / senior official presentations, spoken at major industry conferences, and assisted with field testing.

## Technical Profile

### Programming:

Rust, Python, JavaScript, PHP 5.x, C, C++, C#, Java

### Frameworks:

Django, Zend Framework, Yii, Symfony, JQuery, Node.js, backbone.js, Reactive, BOOST, Smarty, .NET

### UI & Formats:

HTML5, XHTML, CSS3, XML, JSON

### Databases & Storage Technologies:

MariaDb, AeroSpike, Cassandra, Neo4J, HyperTable, Redis, Kafka, MySQL, SQLite, MSSQL2008, MongoDB, Amazon SimpleDB

### Platforms & Others:

AWS, Docker, Vagrant, Elasticsearch, Storm, Samza, Kafka, Hadoop, Apache, Nginx, Red5, HipHop VM, Git, SVN, CVS, BackTrack, Kali, OpenVas, AirSnoort, nmap, Otrace, metasploit

## Experience

### Cyber Security Intelligence Solution Architect

**QCERT (Qatar National CERT)** [ Doha - Qatar - June 2013 till Present ]

Architecting and developing a real time DNS logs analysis platform using only open source infrastructure such as Apache Storm, Apache Kafka, Neo4J, AWS EC2, Python, Pyleus, MLSec, KVM and D3.js.

The system is used to provide service to both government and private sector organizations nationwide processing 100s of TBs of logs every week.

**Software Architect**

**Sam Media** [ Kuala Lumpur - Malaysia - October 2012 till May 2013 ]

Worked on enhancing the development process at the company and was on a refactoring task force to re-architect and rewrite several mission critical consumer facing software.

**Senior Software Engineer/ Team Lead / Software Architect**

**Yakimbi Group** [ Kuala Lumpur - Malaysia - February 2012 till September 2012 ]

Developing a secure DropBox software alternative where the backend system is written in PHP5 using an intelligent key management system to encrypt user data. Involved in all levels of the stack from architecting encryption mechanisms to scaling the system to large user base. Owned the hiring process and have assembled a team of international developers to lead the effort of delivering the system. Managed all aspects of the development process from architecting, coding, setting standards, conducting code reviews and writing technical documentations.

**Research and Teaching Assistant**

**Assiut University** [ Assiut - Egypt - September 2009 till June 2013 ]

*Research areas:* Software Engineering, Distributed Systems, Machine Learning, Cloud Computing, Service Oriented, Architectures, Semantic Web.

*Held practical classes for the following courses:* Data Structures, Technical Report Writing, Web-based Information Systems, Programming language analysis, Decision support systems, System Analysis and Design, E-commerce and Service Management.

**PHP Developer**

**MicroEuropa Telecom** [ Lisbon - Portugal - February 2010 till July 2010 ]

Developed many PHP5 / Zend framework MVC web applications running MySql for databases. Built many custom content management systems / hosting management systems that integrate with many popular APIs such as ENOM, Paypal and MultiBanko.

## *Conference Talks*

### **Title: DNS Log Analysis - Case Study**

AusCert 2015 conference - invited speaker

<https://conference.auscert.org.au/osama-kamal>

slides: <https://speakerdeck.com/msmakhlouf/dns-log-analysis-case-study>

## *Education*

### **Independant courses**

CISM - Information Risk Management and Compliance (Part I & Part II), 2014

CISM - Information Security Governance (Part I & Part II), 2014

### **Assiut University, Assiut, Egypt**

B.Sc. in Computer and Information Sciences, Information Systems, June 2009

GPA: 86.24% [Equivalent of A+ Grade]

Distinction with Honors Degree, Ranking 1st in the program

### **United Arab Emirates University, Al-Ain, UAE**

B.Sc. in Electrical Engineering, 2004

GPA:4/4

Discontinued