Miguel Alejandro Garzón, Ph.D., P. Eng.

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GRADUATE STUDIES

- Model-driven Reverse Engineering (PhD Thesis)
- Data Mining (Comprehensive exam and graduate courses)
- Network Security and Cryptography (Graduate Course)
- Data Communications and Networks (3 years as Lecturer for Undergraduate Course)

TECHNICAL SKILLS

- **Data Mining:** Matlab, R, Weka, Hadoop
- **Network Security and Cryptography:** AES, RSA Algorithm, User Authentication Protocols, SSL, TLS, IP Security, Java Cryptographic APIs, TCP/IP protocol Architecture.
- **Multi Programming and Network Programming:** Java Threads and Client-Server applications, Web Services (RESTful and SOAP), Wireshark.
- **Quality Assurance:** Code coverage techniques, Mock Testing with MockRunner, Database Testing with dbUnit, Web Testing with Jetty and Cactus and Web Performance Testing with JMeter, jUnit.
- **Software Design:** Excellent understanding of the software engineering process. UML, N-Tier Architecture, Design Patterns, UML Metamodel, RUP, Scrum and XP Agile Processes.
- **Programming Languages:** C/C++, Java, C#, Visual Basic, MATLAB, Python and Ruby.
- **Real Time Systems:** Real-Time UML, SDL, Telelogic TAU
- **Web Development:** HTML, ASP.NET, ASP.MVC, JSP, EJB, JQuery, CSS, JavaScript, XML, PHP, AJAX, Java Applets, Java RMI, HTTPUnit, WCAG and W3C (Standards), Weblogic, Google API, AngularJS, Node.js
- **Mobile Development**: Windows Phone, Android SDK and IOs (Swift).
- **Database Development:** MS SQLServer, PostgreSQL**,** MySQL, Oracle Databases, Hibernate, iBATIS, DBUnit, MongoDB, Firebase, SQLite.
- **Eclipse IDE Technologies:** EMF, xText, Xpand, MDT, OCL Ecore, GMF, GEF, Eugenia
- **Operating Systems:** UNIX/LINUX, Windows Systems
- **Graphical User Interface:** Java Swing, AWT, Visual Basic, SWT, JSF
- **IDE & Software:** NetBeans, Eclipse 3.4.x, Visual Studio, GlassFish, StarTeam, Twiki, BugZilla, RSM, Visio, Aptana, Dreamweaver, DOORS, JUCMNav, jMeter, Assembla, SVN, CVS, Git.

EXPERIENCE

Postdoctoral Research Fellow and Data Scientist

Mark3 Research Inc., ON   January 2016 – Present
- Research and development of a universal integration component that integrates datasets from different sources into a single coherent data set based on a universal meta-data schema.
- Developed and Implemented Test suites and wrote test cases for - unit level, functional, integration and performance testing using tools such as JMeter, Mockito and Selenium.

Part-Time Professor (Lecturer) - School of Electrical Engineering and Computer Science

University of Ottawa, ON   September 2012 – Present
- Academic Teaching for various Computer Science and Software Engineering courses:
    - Introduction to Data Communications and Networking (CEG3X85) 2014-2017
    - Analysis and Design of User Interfaces (SEG3125) 2017
    - Introduction to Software Engineering (SEG2505) 2012-2016
    - Software Requirements Analysis (SEG3101) 2015
    - Operating Systems (CSI3131) 2015
    - Computer Architecture I (CEG2536) 2014

Software Researcher in Model-Driven Reverse Engineering

University of Ottawa, ON   September 2010 – July 2015
- Developed an open source project tool, Umple, for model-driven reverse engineering and round-trip engineering as part of my PhD thesis work written in Java and C++.

Software Designer and Web Developer   June 2013- October 2014

CFORP, Ottawa, ON
- Designed and developed an ASP MVC Web application for the analysis of student's data and generation of complex reports.   Architecture proposals, test design & planning, estimations.
- Integrated a payroll solution into an existing event management system using secure Web services.

Network Application Developer   September 2008- December 2010

Nakina Systems, Ottawa, ON
- Developed a Java Enterprise and database driven application for the monitoring and discovery of network elements. Worked on J2EE, client APIs, scripting interfaces, GWT and UI design, Database design and refactoring, Eclipse plugin and RCP development.
- Evaluated and recommended test automation tools and determined suitability with various development tools
- Refactored and added components to the internal APIs of a Network Operating System in C and Java.
- Designed and Developed a rich client application intended to build adapters (adapter is a software component which communicates with networks elements) using the Eclipse RCP and other powerful Eclipse technologies (SWT, JET, EMF, Xtext, Xpand, JFace, GMF)

AWARDS AND SCHOLARSHIPS

Faculty of Engineering Part-Time Professor of the year	2015
Ontario Graduate Scholarship (x3)	2010-2013
University of Ottawa Excellence Scholarship	2010-2013
Dean's Honour List	2008-2009
Nortel Scholarship	2005-2007
uOttawa Admission Scholarship	2005

DEGREES

Ph.D., Computer Science, University of Ottawa	2015
M.Sc., in Computer Science, University of Ottawa	2011
Bachelor of Applied Sciences, Software Engineering (Coop), University of Ottawa	2009