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**KING SAUD UNIVERSITY**

**College of Computer and Information Sciences**

**Department of Information Technology**

**Faculty Member Resume**

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| **Full name** | **Highest degree** | **Academic rank** |
| **Lamia Mohamed Ketari** | **Ph.D. in Comupter Science** | **Assistant Professor** |

* **Degrees with fields, institution, and date**:

**June 2007** **Ph. D. in Computer Science**

**Institution:** Laval University – Quebec City (QC), Canada

**Title**: Embedded Java Platforms Acceleration: Techniques and Formal

Framework

**June 1999** **MBA in Management Information Systems**

**Institution:** Laval University – Quebec City (QC), Canada

**Title**: Use of Oriented Object Design Patterns in the Java Language

**June 1996** **Bachelor Degree in Management Computer Science**

**Institution:** Institut Supérieur de Gestion – Tunis, Tunisie

**Title**: Digital Library Management in a Client/Server Environment

* **Years of service (including date of original appointment and dates of promotion)**:

**April 2009-Current:** Assistant Professor at KSU, IT Department.

**Courses:**

* Concepts of Programming Languages (CAP490)
* Information Security (CAP430)
* Computer Programming 1 (CSC111)
* **Other related experience (Teaching, industrial, etc.)**:

**September 2007– September 2008 Full-time Assistant Professor**

**Courses:**

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|  | * + - « Development Environments : Java and C   Languages »   * + - « Object Oriented Design and Programming (UML and C++)     - Distributed Systems » |
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|  | **Institution:** National Institute for Computer Science |
|  | (ENSI), Tunis, Tunisia |
|  | **Spring 2007 Teaching Assistant** |
|  | Laboratory course within the framework of ***distance-*** |
|  | **teaching (e-learning) in Africa.** |
|  | **Course:** « Advanced Programming in Java » |
|  | **Institution:** Laval University, Quebec city, Canada |
|  | **Spring 2007 Teaching Assistant** |
|  | **Course:** « Programming Languages » |
|  | **Institution:** Laval University, Quebec city, Canada |
|  | **Fall 2002 Teaching Assistant** |
|  | **Course:** « Analysis and Design of Information Systems » |
|  | **Institution:** Laval University, Quebec city, Canada |
|  | **Spring 2001 Teaching Assistant** |
|  | **Course**: « Programming Languages » |
|  | **Institution:** Laval University, Quebec city, Canada |
|  | **Spring 2000 Teaching Assistant** |
|  | **Course:** « Advanced Java Programming » |
|  | **Institution:** Laval University, Quebec city, Canada |

**Involved in the following research and development projects:**

* **Acceleration and Security of Embedded Java Platforms**

Acceleration and Security of Embedded Java Platforms project is collaboration between the LSFM (Languages, Semantics and Formal Methods, Laval University) ***research group, CSL (Computer and Security Laboratory, Concordia University) group and PINTL (Panasonic Information and Networking Technologies Laboratory, New Jersey, USA)***. The main goal of this project is to significantly improve the performance of the Sun Kilo Virtual Machine (KVM) of the J2ME/CLDC (Java 2 Micro Edition for Connected Limited Device Configuration) platform. My research duty was developing optimization techniques to enhance the KVM performance. In this context, two directions were taken. The first one consists in the design and implementation of new acceleration techniques for the interpretation mechanism of the KVM. The second direction consists in the design and implementation of a lightweight selective dynamic compiler integrated to the KVM.

* **Integration of SIP Within an Embedded Java Virtual Machine**

Integration of a Session Initiation Protocol (SIP) API within an Embedded Java Virtual Machine project is collaboration between ***LSFM (Languages, Semantics, and Formal Methods research group, Laval University) and PINTL***. The main intent of this project is to study the feasibility of the integration of the Session Initiation Protocol (SIP) within a J2ME/CLDC platform. Some challenging and interesting technical problems in terms of footprint, performance, implementation and portability were studied. Architecture together with a design and an implementation of an API that provides viable solutions to these problems were proposed. In this context, a call-back mechanism is designed to allow the interaction between the Java SIP interface and the embedded stack within a J2ME/CLDC virtual machine through native method calls and callbacks.

* **MaliCots : Malicious Code Detection in Commercial Off-The-shelf Software (COTS)**

MaliCots project is a collaboration between the ***LSFM group and the Defense Research and Development Canada (Canadian Army, Valcartier)***. The main objective of this project is to elaborate practical methods and tools for the detection of malicious code in COTS applications, whose execution may affect the secrecy, availability and integrity of the information system. Three approaches were developed which are: Detection by Static Analysis, detection by Dynamic Analysis and Certifying Compilation. I have worked, with the collaboration of other LSFM group members, on the design and development of a tool for monitoring critical system resources for malicious code detection, called: DaMon (Dynamic Analysis Monitoring). The critical resources that have been identified to be under monitoring are: File System, Registry, Processes and Communication Ports. DaMon is capable of stopping some malicious actions based on access to critical resources according to some security specifications. This tool offers a complete and expressive language to state security policies that will guide the decision of the monitor.

* **Consulting activities**:

Consultant for *Octet Informatique Inc*, Tunis, Tunisia

* **Professional licenses or certifications**:

**Patent**: M. Debbabi, N. Tawbi, S. Zhioua, M. Erhioui, L. Ketari, H. Yahyaoui. Acceleration of Method Call in Virtual Machine. Patent disclosure filed at:

* + US Patent Office: US20020405266P 20020822.
  + European Patent Office: EP1394675.
  + Japan Patent Office: JP2004086869.
  + Chinese Patent Office: CN1251076.
* **Principal publications (last five years)**:
* Mohammadi Akheela Khanum and **Lamia Mohammed Ketari,** " Trends in Combating Image Spam E-mails", accepted for publication in ICFIT2011, September 2011,Singapore. Proceedings Indexed by **ISI (ISTP)** , Ei Compendex.
* **Lamia Mohammed Ketari** " Online Library for Graduation Project Management : The OGPL system", ED-Media 2011 World Conference on Educational Multimedia, Hypermedia and Telecommunications. Published by EditLib.
* **Lamia Mohamed Ketari** and Mohammadi AKheela Khanum**,** " A Review of Malcious Code Detection Techniques for Mobile Devices", accepted for publication in the 2011 International Conference on Information and Computer Applications, [ICICA 2011](http://www.icica.org/) , Dubai,UAE , March 18-20,2011. Conference proceeding will be published by IEEE Press, which will be included in the IEEE Xplore, and indexed by INSPEC, Ei Compendex and other indexing services. IEEE Catalog Number: CFP1147M-PRT, ISBN: 978-1-4244-9502-3.
* **L. Ketari,** H. Yahyaoui and Mourad Debbabi. A Denotational Semantic Model for J2ME-CLDC Bytecode Language. Submitted to 4th Workshop on Bytecode Semantics,Verification, Analysis and Transformation, part of ETAPS 2009.
* M. Debbabi, A. Gherbi, **L. Ketari**, C. Talhi, N. Tawbi, H. Yahyaoui, and S. Zhioua. E-Bunny : A Dynamic Compiler for Embedded Java Virtual Machines. International Journal of Object Technology, Volume 4, Issue 1, Pages 83-108, January 2005.
* N. Debbabi, A Gherbi, **L. Ketari**, C. Talhi, H. Yahyaoui, and S. Zhioua. A Synergy between Efficient Interpretation and Fast Selective Dynamic Compilation for the Acceleration of Embedded Java Virtual Machines. In Proceedings of the 3rd International Conference on the Principles and Practice of Programming in Java (ACM PPPJ'04), Pages 100-107, ACM Press, 2004.
* **Membership in scientific and professional societies**:
* **Honors and awards**:
* **2006** Participation in Acceleration and Security of Embedded Java Platforms project, winner of the 20th Octas 2006 award (« Relève universitaire » category) given by the Fédréation de l’Informatique du Québec (FIQ), which recognizes innovation in Quebec’s burgeoning technology sector.
* **2001** Participation in Malicots Project, winner of the following awards:
  + - * + CIPA'2001 National Excellence Award in Information Technologies.
        + OCTAS'2001 Quebec State Excellence Award in Information Technologies.
        + TechnoFed'2000 Governmental Excellence Award in Information Technologies.
* **2001** Tunisian Government Fellowship for Ph. D. studies at Laval University.
* **1998** Tunisian Government Fellowship for MBA studies at Laval

University.

* **Institutional and professional services (last five years)**:
  + Graduation Project Coordinator, KSU, IT Department (Since September 2009)
* **Percentage of time committed to the program and to research/scholarly activities**:

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| **Information Technology Program** | | **Research and Scholarly Activities** | **Others: Consulting Activities, etc.** |
| **Teaching** | **Administrative Duties, Committees, etc.** |
| 60% | 30% | 10% |  |