



**Dr. Adnane Ghannem**

Assistant Professor at ABMMC-QATAR

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## EDUCATION

*University of Quebec- ETS, Montreal, Quebec, Canada*

**PhD in Software Engineering**

**2011-2014**

Thesis Title: Example-Based Model Refactoring Using Heuristic Search

*University of Quebec in Three Rivers, Quebec, Canada*

**Master in Applied Mathematics and Computer Science**

**2003-2006**

Thesis title: Web-based Applications Testing: A Control Flow Model-based Approach

*Higher Institute of Management of Tunis-Tunisia*

**Bachelor in Applied Management and Computer Sciences**

**1998-2002**

Graduation project title: Computerized Cylinder Coating

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## CERTIFICATIONS

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| • CISCO CERTIFICATION – CCNA 1 | <b>2019</b> |
| • CISCO CERTIFICATION – CCNA 2 | <b>2019</b> |
| • CISCO CERTIFICATION – CCNA 3 | <b>2019</b> |

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## AWARDS

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| • Excellent academic records of University of Quebec: ÉTS                      | <b>2015</b> |
| • Excellent academic records of University of Quebec: ÉTS                      | <b>2014</b> |
| • Career Advancement of University of Quebec : ÉTS                             | <b>2014</b> |
| • International mobility grant of University of Quebec : ÉTS                   | <b>2012</b> |
| • Distinguished poster Award   | <b>2005</b> |
| • Scholarship in Canada offered by the Ministry of Higher Education in Tunisia | <b>2003</b> |

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## TEACHING EXPERIENCE

ABMMC, Doha, QATAR

**Assistant Professor**– IT and Computer Sciences

**2018**

Plan, prepare and deliver lesson plans and instructional materials that facilitate active learning.

- Develops schemes of work, lesson plans and tests that are in accordance with established procedures.
- Instruct and monitor students in the use of learning materials and equipment.
- Use relevant technology to support and differentiate instruction• Assign and grade class work, homework, tests and assignments.

University of Michigan, Detroit, USA	
<b>Teaching Assistant</b> – Computer Sciences	<b>2014</b>
Plan, prepare and deliver lesson plans and instructional materials that facilitate active learning.	
<ul style="list-style-type: none"> <li>• Use relevant technology to support and differentiate instruction</li> <li>• Assign and grade class work, homework, tests and assignments.</li> </ul>	
University of Quebec, Montreal, Canada	
<b>Teaching Assistant</b> – Computer Sciences	<b>2013</b>
Plan, prepare and deliver lesson plans and instructional materials that facilitate active learning.	
<ul style="list-style-type: none"> <li>• Use relevant technology to support and differentiate instruction</li> <li>• Assign and grade class work, homework, tests and assignments.</li> </ul>	
University of Montreal, Montreal, Canada	
<b>Teaching Assistant</b> – Computer Sciences	<b>2007</b>
Plan, prepare and deliver lesson plans and instructional materials that facilitate active learning.	
<ul style="list-style-type: none"> <li>• Use relevant technology to support and differentiate instruction</li> <li>• Assign and grade class work, homework, tests and assignments.</li> </ul>	
University of Quebec in Three Rivers, Quebec, Canada	
<b>Teaching Assistant</b> – Computer Sciences	<b>2003</b>
Plan, prepare and deliver lesson plans and instructional materials that facilitate active learning.	
<ul style="list-style-type: none"> <li>• Use relevant technology to support and differentiate instruction</li> <li>• Assign and grade class work, homework, tests and assignments.</li> </ul>	

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## RELATED EXPERIENCE

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<i>Ahmed Bin Mohammed Military College, Doha, Qatar</i>	
<b>Postdoc</b>	<b>2015-2018</b>
Postdoctoral Researcher on the project entitled: Design Requirements: Capability-Driven Requirements Engineering February 2018 with Application on I-Doha for the 2022 World Cup.	
<i>SBSE lab , Detroit, USA</i>	
<b>Research Coordinator</b>	<b>2013-2014</b>
Develop a tool to extract refactoring between two versions of program based on abstract syntax tree (AST).	
Instruct and monitor students in their research projects	
<i>McDonnell Douglas SE Lab at University of Missouri-USA , Missouri, USA</i>	
<b>Research specialist</b>	<b>2011-2012</b>
Develop an algorithm that support model refactoring by applying heuristics (GA and Interactive Genetic Algorithm).	
<i>Benchmark Consulting Canada, Montreal, Canada</i>	
<b>Research specialist</b>	<b>2010-2011</b>
Reconstructing architectural views from legacy system using KDM (Knowledge Discovery Meta-model)	
<i>GEODES laboratory lab at University of Montreal-CANADA</i>	
<b>Research specialist</b>	<b>2006-2007</b>
Develop an approach that supports software analysis, phylogeny and	

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history using alignment algorithms.

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#### PUBLICATIONS AND PAPERS

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- Ghannem, A., Mohammed S. Hamdi, Kessentini, M., & Hany Ammar, "Requirements Traceability Recovery Using Heuristic search: A comparative Study", **ACM Transactions on Software Engineering and Methodology (TOSEM)**, 2023 (under review).
  - Hamdi, M. S., Ghannem Adnane and Kessentini Marouane. **"Requirements traceability recovery for the purpose of software reuse: an interactive genetic algorithm approach."** Innovations in Systems and Software Engineering, 2022
  - Ghannem, A., Mohammed S. Hamdi, Kessentini, M., & Hany Ammar, "Knowledge Incorporation In Requirements Traceability Recovery". 11<sup>th</sup> **ICISA: International Conference on Information Science and Applications**, 2020.
  - Soui Makram, Abed Mourad, Ghannem, A. and Daouas Karim, "Adaptive Tutoring System based on Fuzzy Logic", **Int. J. Advanced Intelligence Paradigms**, 2020.
  - Mohamed Salah Hamdi, Adnane Ghannem, Pericles Loucopoulos, Evangelia Kavakli and Hany Ammar, STAD: Intelligent Parking Management by Means of Capability Oriented Requirements Engineering, **IEA/AIE-2019**.
  - Ghannem, A., Kessentini, M., Mohammed S. Hamdi & El\_Boussaidi G., Model refactoring by Example: A Multi-Objective Search Based Software Engineering Approach. **Journal of Software: Evolution and Process (JSEP)**, 2018.
  - Ghannem, A., et al. (2015). "On the use of design defect examples to detect model refactoring opportunities." **Software Quality Journal (SQJ)**: 1-19. 2015.
  - Ghannem, A., El\_Boussaidi G., & Kessentini, M. Model Refactoring Using Examples: A Search-based Approach. **Journal of Software: Evolution and Process (JSEP)**, John Wiley & Sons, Ltd, DOI 10.1002/smr.1644, 2014.
  - Ghannem, A., et al. (2015). "On the use of design defect examples to detect model refactoring opportunities." **Software Quality Journal (SQJ)**: 1-19. 2015.
  - Ghannem, A., Mohamed Salah Hamdi, Marouane Kessentini and Hany Ammar, Search-Based Requirements Traceability Recovery: A Multi-Objective Approach, in Proceedings in the **IEEE Congress on Evolutionary Computation (CEC2017)**, DOI: 10.1109/CEC.2017.7969440, Donostia - San Sebastián, Spain.
  - Ghannem, A., Mohamed Salah Hamdi, Hany Ammar and Makram Soui, A Systematic Classification of Requirements Engineering Approaches for Adaptive Systems, in Proceedings in the Proceedings of the Second **International Conference on Internet of things, Data and Cloud Computing (ICC) 2017**. Cambridge, United Kingdom — March 22 - 23, 2017
  - Ghannem, A., Mohamed Salah Hamdi, Makram Soui and Hany Ammar, An Adaptive I-Parking Application: An Ontology-Based Approach, in Proceedings in the **Future Technologies Conference (FTC)**, DOI: 10.1109/FTC.2016.7821692, San Francisco, CA, USA, 6-7 Dec. 2016.
  - Ghannem A., Hamdi M.S., Kessentini M., Ammar H.H. (2018) Search-Based Requirements Traceability Recovery. In: Bi Y., Kapoor S., Bhatia R. (eds) Proceedings of SAI **Intelligent Systems Conference (IntelliSys) 2016**. Lecture Notes in Networks and Systems, vol 15. Springer, Cham
  - Ghannem, A., Mohamed Salah Hamdi, Walid AbdelMoez and Hany Ammar, A Context Model Development Process For Smart City Operations, in Proceedings in the 10th **International Conference on Service Operations and Logistics, and Informaticsic Algorithm. (SOLI'15)**, Hammamet, Tunisia, November 2015.
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- Ghannem, A., El\_Boussaidi G., & Kessentini, M. Example-Based Model refactoring Using Multi-Objective Optimization, in Proceedings in the 1st **North America Search Based Software Engineering (NasBASE)**, 2015, Detroit, USA February 2015.
- Ghannem, A., El\_Boussaidi G., & Kessentini, M. Model Refactoring Using Interactive Genetic Algorithm, in Proceedings in the 5th **International Symposium on Search-based Software Engineering (SSBSE) 2013**, St. Petersburg, Russie, août 2013.
- Ghannem, A., Kessentini, M. & El\_Boussaidi G., Detecting Model Refactoring Opportunities Using Heuristic Search. Actes de The 21th **Annual International Conference on Computer Science and Software Engineering, (CASCON)**, USA, novembre 2011.
- Ghannem, A., Salima Hassaine, Yann-Gaël Guéhéneuc, & Sylvie Hamel. L'analyse de logiciels, phylogénie et histoire. In Mireille Blay-Fornarino, editor, Actes du 14e **Colloque Langages et Modèles à Objets (LMO)**, Montréal Canada, mars 2008.
- Ghannem, A., and Badri L., A tool supporting Web\_based applications testing: a control flow model based approach. Actes de The **IADIS International Conference on WWW/Internet**, Espagne, novembre 2006, p156.
- Ghannem A., Mohamed Salah Hamdi & Hany Ammar, Towards an Ontology-based Context Model for Smart City Operations: I-Parking as an Example, **IEEE International Smart Cities Conference (ISC2)**, Guadalajara, 25-28 October 2015.
- Ghannem A. and Badri L., **Test des applications web: Modélisation et génération des séquences de test basées sur le contrôle**. Scientific poster competition of University of Quebec in Three Rivers (UQTR), Canada, April 2005. (Distinguished poster Award).

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#### INDSUTRIAL EXPERIENCE

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<b>Engineer at Videotron Inc, Canada</b>	<b>2007-2011</b>
Participate in the design of "HFC Modernization of Montreal Network" Project in Small-world GE.	
<b>Engineer at Hannecard Inc, Tunisia</b>	<b>2002-2003</b>
Design and develop the software (REC-AO) for production management, inventory, payroll, HR	
<b>Software developer at Maersk evergreen Inc- Tunisia</b>	<b>2001-2002</b>
<ul style="list-style-type: none"> <li>• Develop software modules for inventory management and accounting for various clients.</li> <li>• Manage, install and repair bugs in the network.</li> </ul>	
<b>Software developer at Maersk evergreen Inc- Tunisia</b>	<b>2000-2001</b>
<ul style="list-style-type: none"> <li>• Design and implement a Framework which to manipulate a database used in the management system of transfers</li> </ul>	
<b>Software developer at Air Liquid Inc- Tunisia</b>	<b>1999-2000</b>
<ul style="list-style-type: none"> <li>• Design and develop some management modules.</li> </ul>	

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#### ORGANIZING COMMITTEE

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Organizing committee of a research workshop at ABMMC.	<b>2017</b>
Organizing committee of a research workshop at ABMMC.	<b>2015</b>
Program committee of the 1st Edition of the North American Search Based Software Engineering Symposium (NasBase2015).	<b>2015</b>
Program committee of the 14th conference of Language and Object Model	<b>2008</b>

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#### LANGUAGES

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- Arabic – Native
  - English – Advanced
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- French – Fluent
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#### SCIENTIFIC REVIEWER

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Journal of Software: Evolution and Process	<b>2014</b>
IEEE Transactions on Emerging Topics in Computational Intelligence	<b>2016</b>
Co-founder & member of Paper Writing Help Service (SARA)- CANADA	<b>2014</b>

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#### MENTORING

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Journal of Software: Evolution and Process	<b>2014</b>
IEEE Transactions on Emerging Topics in Computational Intelligence	<b>2016</b>
Co-founder & member of Paper Writing Help Service (SARA)- CANADA	<b>2014</b>

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#### OTHER ACTIVITIES

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##### **Volunteering**

Executive member at North American Tunisian Engineers (NATEG)-CANADA	<b>2012</b>
General secretary of Tunisian Students Association at UQTR.	<b>2004</b>
Executive member at Info+ international Club in Tunisia	<b>2000</b>

##### **Training and internships**

Certificate- Leadership with BestBuy- CANADA	<b>2008</b>
Certificate- Workshop Bio-informatics from University of Montreal- CANADA	<b>2007</b>
Certificate- Workshop Statistics from UQTR- CANADA	<b>2004</b>
Certificate- SQL Server2000- TUNISIA	<b>2001</b>