

# CURRICULUM VITAE

## HADI HEMMATI

### Contact Info:

Simula Research Laboratory  
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### OCCUPATION

**Post Doctoral Fellow** **2011 – 2013**  
Software Analysis and Intelligence Lab (SAIL)  
Queen's University, Kingston, ON, Canada

### EDUCATION

Simula Research Laboratory and  
Informatics Department at University of Oslo, Norway  
**PhD in Software Engineering** **2007 – 2011**  
Dissertation: "Similarity-based Test Case Selection: toward scalable and practical model-based testing"  
Supervisors: Prof. L. Briand and Dr. A. Arcuri

Sharif University, Tehran, Iran  
**M.S in Software Engineering: GPA 18.27/20**  
Thesis: "Run-Time Assurance for Reconfiguration in Component-Based Pervasive Computing Systems"  
Supervisors: Dr. R. Jalili, and Dr. S.H. Mirian **2003 - 2005**

Iran University of Science and Technology, Tehran, Iran A  
**B.S. in Software Engineering: GPA 16.48/20**  
Thesis: "A Tool for Generating Web-Based Distributed Database Systems"  
Supervisor: Dr. M. Haghjoo **1999 - 2003**

NODET (National Organization for Development of Exceptional Talents) High School, Zanjan, Iran  
**Diploma in Physics and Mathematics** **1995 - 1999**

### PUBLICATIONS

#### *Published Journal Papers*

1. S. Ali, L. Briand, and **H. Hemmati**, "Modeling Robustness Behavior Using Aspect-Oriented Modeling to Support Robustness Testing of Industrial Systems", Accepted for publication in journal of **Software and Systems Modeling (SOSYM)**. **2011**
2. S. Ali, L. C. Briand, **H. Hemmati**, and R.K. Panesar-Walawege, (authors are alphabetically ordered), "A Systematic Review of the Application and Empirical Investigation of Evolutionary Testing", **IEEE Transactions on Software Engineering (TSE)**, vol. 36, no. 6, pp. 742-762. **2010**

#### *Submitted Journal Papers*

3. **H. Hemmati**, A. Arcuri, and L. Briand, "Achieving Scalable Model-Based Testing Through Test Case Diversity", Revision submitted to **ACM Transactions on Software Engineering and Methodology (TOSEM)**. **2010**
4. **2010**

#### *Conference Papers*

5. **H. Hemmati**, A. Arcuri, and L. Briand. "Empirical Investigation of the Effects of Test Suite Properties on Similarity-Based Test Case Selection", In the 4<sup>th</sup> IEEE International Conference on Software Testing, Verification and Validation (**ICST**), (Acceptance Rate 21%). **2011**

6. **H. Hemmati**, L. Briand, A. Arcuri, and S. Ali. "An Enhanced Test Case Selection Approach for Model-Based Testing: An Industrial Case Study", In the 18<sup>th</sup> International Symposium on Foundations of Software Engineering (**FSE**), p267-276. (Acceptance Rate 20%) **2010**
7. **H. Hemmati** and L. Briand. "An Industrial Investigation of Similarity Measures for Model-Based Test Case Selection", In the 21<sup>st</sup> IEEE International Symposium on Software Reliability Engineering (**ISSRE**), p141-150. (Acceptance Rate 32%) **2010**
8. **H. Hemmati**, A. Arcuri, and L. Briand. "Reducing the Cost of Model-Based Testing through Test Case Diversity", In the 22<sup>nd</sup> IFIP International conference on Testing Software and Systems (**ICTSS**), formerly TestCom/FATES, p63-78 (Acceptance Rate 25%). **2010**
9. **H. Hemmati**, R. Jalili, "Self-Reconfiguration in Highly Available Pervasive Computing System", In the 5<sup>th</sup> International Conference on *Autonomic* and Trusted Computing (**ATC08**), published in Lecture Notes in Computer Science, Norway, 2008. (Acceptance Rate 25%) **2008**
10. S. Javanmardi, **H. Hemmati**, M. Amini, R. Jalili, "An Access Control Framework for Pervasive Computing Environments", In the International Conference on Pervasive Systems & Computing (**PSC06**), Monte Carlo Resort, Las Vegas, Nevada, USA (June 26-29, 2006). **2006**
11. N.Nobakht, M.Niamanesh, **H.Hemmati**, R.Jalili, "Graph-Based State Transfer Mechanism for Dynamic Reconfiguration in Component-Based Software", In the 11<sup>th</sup> Computer Society of Iran Computer Conference, CSICC2006, January 24-26, 2006, Tehran, Iran. (In Persian) **2006**
12. **H.Hemmati**, M.Niamanesh , R.Jalili, "A Framework to Support Run-Time Assured Dynamic Reconfiguration for Pervasive Computing Environments", In the first IEEE International symposium on wireless pervasive computing ISWPC, Phuket, Thailand, January 16-18, 2006. (Acceptance Rate 31%) **2006**
13. **H.Hemmati**, S.Aliakbarian, M.Niamanesh, R.Jalili, "Structural and Behavioral Run-Time Validation of Dynamic Reconfiguration in Pervasive Computing Environments", In the 4<sup>th</sup> Asian International Mobile Computing Conference AMOC, Kolkata, India, January 4-7, 2006, pp 273-277. **2006**
14. A Ranjbar, **H. Hemmati**, M Niamanesh, R Jalili, "*Context-Aware Service Migration in Pervasive Computing Environments*", In the 2<sup>nd</sup> international conference on Information and Knowledge Technology, May 24-26, 2005, Tehran, Iran. (In Persian) **2005**

**Some of the Non-refereed Technical Reports:**

15. S. Ali, **H. Hemmati**, N. E. Holt, E. Arisholm, and L. Briand, "Model Transformations as a Strategy to Automate Model-Based Testing - A Tool and Industrial Case Studies", Simula Research Laboratory, Technical Report (2010-01). **2009**
16. S. Ali, L. C. Briand, **H. Hemmati**, and R. K. Panesar-Walawege, "A Systematic Review of the Application and Empirical Investigation of Search-based Test-Case Generation", Simula Research Laboratory, Technical Report SE 293 (Extended version of the TSE paper). **2008**

**Theses:**

17. PhD. Thesis: "Similarity-based Test Case Selection: toward scalable and practical model-based testing". **2011**
18. M.S. Thesis: Run-Time Assurance for Reconfiguration in Component-Based Pervasive Systems, 2005 (In Persian). **2005**
19. B.S. Thesis: A Tool for generating Web-Based Distributed Database System, 2003 (In Persian) **2003**

**AWARDS**

- Phd Admission and Fellowship offer from George Mason University, Virginia, USA. **2007**

- Phd Admission and Fellowship offer from University of Oregon, Oregon, USA. **2007**
- Phd Admission and Fellowship offer from Carleton University, Ottawa, Canada. **2007**
- Phd Admission and Fellowship offer from University of Calgary, Calgary, Canada. **2007**
- Phd Admission from Sharif University of Technology, Tehran, Iran. **2006**
- Takfa Research Grant for Graduate Study. Sharif university of Technology. **2005**
- Distinguished master student in Sharif University of Technology. **2004-2005**
- Ranked 4th among 5554 graduate students in National University Entrance Examination for Master Degree in Computer Engineering and 3rd among Software Engineering candidates in Iran. **2003**
- Ranked among top 10 in the scientific Olympiad of Iranian computer engineering students. **2003**
- Distinguished under grad student in software engineering in Iran University of Science and Technology. **1999 – 2003**
- Member of IRANIAN Soccer RoboCup team (Iran University of Science and Technology) 2002 Japan. **2002**

#### TEACHING EXPERIENCE

- Comprehensive Scientific-Applied University
- Lecturer – “Data Structure”** **2004-2005**
- Lecturer – “Commercial Programming”** **2004-2005**
- Lecturer – “Machine Structure and Language”** **2005-2006**
- Sharif University of Technology **2004-2005**
- Teaching Assistant – “Software engineering Laboratory”**

#### PROFESSIONAL EXPERIENCES

- Tandberg AS (is now part of Cisco), Oslo, Norway (<http://www.tandberg.com>)
- Collaboration as a part of PhD. (SW modeling, testing, developing tool, organizing tutorials)** **2008-now**
- Peikasa Corp, Tehran, Iran. (Developer of mobile messaging systems)
- Software Analyst** **2006-2007**
- Mahan Education Institute, Tehran, Iran.
- Educational Consultant** **2003**

#### RECENT COURSES

- Spring school: Model Driven Development for Distributed Real-time Embedded Systems-organized by CEA LIST, Aussois, France. **2009**
- Workshop: Introduction to Innovation and Entrepreneurship by Martin Edlund from Chalmers School of Entrepreneurship. **2009**
- Graduate courses: Model-based System Development, Unassailable IT-systems, and Modeling QoS with UML, University of Oslo. **2008**
- Workshop: Communicating Scientific Research by Associate Professor Michael Alley from Pennsylvania State University. **2008**

#### OTHER RESEARCH ACTIVITIES

- Review for conferences and journals such as
  - IEEE Transactions on Software Engineering
  - ACM Transactions on Software Engineering
  - Information and Software Technology Journal
  - IEEE Software Magazine
  - International Conference on Software Engineering
  - The Genetic and Evolutionary Computation Conference
  - International Symposium on Search Based Software Engineering

#### TECHNICAL SKILLS

- Programming/Scripting Languages: Java, C/C++, Python
- (meta)Modeling Languages: UML2.0, XMI, OCL
- Transformation Languages: Kermeta, MofScript, ATL
- Tools and Frameworks: Eclipse Modeling Framework, IBM RSA

#### **LANGUAGES**

- Farsi: Native Language
- English: Fluent
- Norwegian: Beginner

#### **REFERENCES**

- Lionel C. Briand, Professor University of Oslo and Simula Research Laboratory, IEEE fellow, <briand@simula.no>
- Andrea Arcuri, Research Scientist Simula Research Laboratory, <arcuri@simula.no>
- Marius C. Liaaen, Manager QA/Test Solutions Platforms TTG, Tandberg (now part of CISCO), marliaae@cisco.com
- Erik Arisholm, Professor University of Oslo and Simula Research Laboratory, CEO Testify AS, <erik.arisholm@testify.no>