

Apr. 2021

BAHMAN ZAMANI

Model Driven Software Engineering (MDSE) research group
Dept. of Software Engineering
Faculty of Computer Engineering
University of Isfahan
Hezar-Jerib, Isfahan 81746-73441
Iran
Phone: +98-311-7934537
Email: zamani@eng.ui.ac.ir
Home Page: <http://eng.ui.ac.ir/~zamani>
Research Group: <http://mdse.ui.ac.ir>

EMPLOYMENT

Tenured Associate Professor Jun. 2018 - Present
Department of Software Engineering, University of Isfahan, Isfahan, Iran

Tenured Assistant Professor Sep. 2009 - May. 2018
Department of Software Engineering, University of Isfahan, Isfahan, Iran

Research Faculty Member Jan. 1998 - Dec. 2003
Iranian Research Organization for Science & Technology (IROST)
Ministry of Science, Research, and Technology (MSRT), Isfahan, Iran

CEO & Manager of Software Dept. Sep. 1990 - Sep. 1994
Hooshafzar Computer Engineering Company, Isfahan, Iran

ACADEMIC CREDENTIALS

PhD, Computer Science - Software Engineering Jan. 2004 - Jun. 2009
Concordia University, Montreal, QC, Canada
Thesis: On Verifying the Use of a Pattern Language in Model-Driven Design
Supervisor: Prof. Greg Butler

MSc, Computer Engineering - Software Engineering Sep. 1994 - Feb. 1997
Sharif University of Technology, Tehran, Iran
Thesis: A Software for Symbolic Execution of Programs
Supervisor: Dr. Sonia Sehat-niaki

BSc, Computer Engineering - Software Engineering Sep. 1985 - Sep. 1990
University of Isfahan, Isfahan, Iran
BSc Project: Action Diagrams

SABBATICAL VISITS

- Concordia University, Montreal, Canada* Sep. 2019 - Aug. 2020
Research Topic: Model-Driven Solutions for Automatic Generation of Geo-location Applications for Android
Collaborator: Prof. Wahab Hamou-Lhadj
- Concordia University, Montreal, Canada* Jul. 2018 - Aug. 2018
Research Topic: Logging Techniques for Model Transformations
Collaborator: Prof. Wahab Hamou-Lhadj
- UQAM, Montreal, Canada* Jul. 2016 - Aug. 2016
Research Topic: Android Anti-Patterns
Research lab: Laboratory for Research on Technology for Ecommerce (LATECE)
Collaborator: Dr. Naouel Moha
- Concordia University, Montreal, Canada* Jul. 2014 - Aug. 2014
Research topic: Model Execution Tracing
Collaborator: Prof. Wahab Hamou-Lhadj

RESEARCH INTERESTS

Model Driven Engineering (MDE)

- Fundamental Research on MDE
 - Model Transformations (Bidirectional, Reactive & Incremental Transformations, Transformation Life-cycle, Transformation Patterns)
 - Model Execution (Executable Models & Execution Traces)
 - Model Management (Model Versioning, Model Merging, Test Model Generation)
- Applied Research using MDE
 - Meta-Modeling (Domain Specific Modeling Languages (DSML), UML Profiles)
 - Automatic Code Generation (Multi-agent Systems, Android Applications)
 - Android Security Analysis (Using Model-Driven Reverse Engineering (MDRE))

Software Design Patterns

- Design Patterns and Anti-Patterns
- Pattern Language Verification (PLV)

Software Testing

- Automatic Test Case Generation
- Model-Based Testing (MBT)

PUBLICATIONS

Books:

- [1] Bahman Zamani and Leila Samimi-Dehkordi. *Model-Driven Software Engineering: Concepts and Principles*. University of Isfahan Press, 2021. (In Persian).
- [2] Bahman Zamani and Afsaneh Fatemi. *Object-Oriented Software Engineering: An Agile Unified Methodology*, volume 1. University of Isfahan Press, 2015. (The Persian translation of chapters 1-12 of the original book: “David C. Kung. *Object-Oriented Software Engineering: An Agile Unified Methodology*, McGraw-Hill Higher Education, 2013”).

Journal Papers:

- [1] Mohammadreza Sharbaf, Bahman Zamani, and Gerson Sunye. Conflict management techniques for model merging: A systematic mapping review. *IEEE’s Transactions of Software Engineering (TSE)*, 2021. Submitted.
- [2] Hossein Moradi, Bahman Zamani, and Kamran Zamanifar. CA-BPEL: A new approach to facilitate the development and execution of context-aware service compositions consistent with the WS-BPEL language. *Elsevier’s Journal of Computer Languages (COLA)*, 2021. Submitted.
- [3] Hayyan Hasan, Behrouz Tork-Ladani, and Bahman Zamani. Curious-Monkey: Evolved Monkey for triggering malicious payloads in Android malware. *The ISC International Journal of Information Security (ISeCure)*, 2021. In Press.
- [4] Hayyan Hasan, Behrouz Tork-Ladani, and Bahman Zamani. MEGDroid: A model-driven event generation framework for dynamic Android malware analysis. *Elsevier’s Information and Software Technology (IST)*, 135:106569, 2021.
- [5] Alireza Khalilian, Ahmad Baraani-Dastjerdi, and Bahman Zamani. CGenProg: Adaptation of cartesian genetic programming with migration and opposite guesses for automatic repair of software regression faults. *Elsevier’s Expert Systems With Applications*, 169:114503, 2021.
- [6] Mohammadali Gharaat, Mohammadreza Sharbaf, Bahman Zamani, and Wahab Hamou-Lhadj. ALBA: A model-driven framework for the automatic generation of Android location-based applications. *Springer’s Journal of Automated Software Engineering (ASE)*, 28(1):1–45, 2021.
- [7] Mahsa Panahandeh, Mohammad Hamdaqa, Bahman Zamani, and Wahab Hamou-Lhadj. MUPPIT: A method for using proper patterns in transformations. *Springer’s Software & Systems Modeling (SoSyM)*, pages 1–33, 2021.
- [8] Sogol Faridmoayer, Samaneh Hoseindoost, Shekoufeh Kolahdouz-Rahimi, and Bahman Zamani. Applying meta-heuristics algorithms in model-driven approaches for solving the CRA problem. *Journal of Computing and Security*, 7(2):141–161, 2020.
- [9] Mohammadreza Sharbaf and Bahman Zamani. Configurable three-way model merging. *Wiley’s Software: Practice and Experience (SPE)*, 50:1565–1599, 2020.

- [10] Banafsheh Azizi, Bahman Zamani, and Shekoufeh Kolaheidouz-Rahimi. SEET: Symbolic execution of ETL transformations. *Elsevier's Journal of Systems and Software (JSS)*, 168:110675, 2020.
- [11] Hossein Moradi, Bahman Zamani, and Kamran Zamanifar. CaaSSET: A framework for model-driven development of context as a service. *Elsevier's Journal of Future Generation Computer Systems (FGCS)*, 105:61–95, 2020.
- [12] Alireza Khalilian, Ahmad Baraani-Dastjerdi, and Bahman Zamani. APRSuite: A suite of components and use cases based on categorical decomposition of automatic program repair techniques and tools. *Elsevier's Journal of Computer Languages (COLA)*, 57:100927, 2020.
- [13] Fazilat Hojaji, Bahman Zamani, Wahab Hamou-Lhadj, Tanja Mayerhofer, and Erwan Bousse. Lossless compaction of model execution traces. *Springer's Software & Systems Modeling (SoSyM)*, 19(1):199–230, 2020.
- [14] Fazilat Hojaji, Tanja Mayerhofer, Bahman Zamani, Wahab Hamou-Lhadj, and Erwan Bousse. Model execution tracing: a systematic mapping study. *Springer's Software & Systems Modeling (SoSyM)*, 18(6):3461–3485, 2019. **SoSyM 2019 Best Paper Award, Invited for MODELS 2019.**
- [15] Amirabbas Majd, Mojtaba Vahidi-Asl, Alireza Khalilian, Ahmad Baraani-Dastjerdi, and Bahman Zamani. Code4bench: A multidimensional benchmark of codeforces data for different program analysis techniques. *Elsevier's Journal of Computer Languages (COLA)*, 53:38–52, 2019.
- [16] Samaneh Hoseindoost, Tahereh Adamzadeh, Bahman Zamani, and Afsaneh Fatemi. A model-driven framework for developing multi-agent systems in emergency response environments. *Springer's Software & Systems Modeling (SoSyM)*, 18:1985–2012, 2019.
- [17] Atefeh Nirumand, Bahman Zamani, and Behrouz Tork-Ladani. VAnDroid: a framework for vulnerability analysis of Android applications using a model driven reverse engineering technique. *Wiley's Software: Practice and Experience (SPE)*, 49:70–99, 2019.
- [18] Leila Samimi-Dehkordi, Bahman Zamani, and Shekoufeh Kolaheidouz-Rahimi. Leveraging product line engineering for the development of domain-specific metamodeling languages. *Elsevier's Journal of Computer Languages (COLA)*, 51:193–213, 2019.
- [19] Leila Samimi-Dehkordi, Bahman Zamani, and Shekoufeh Kolaheidouz-Rahimi. EVL+Strace: A novel bidirectional model transformation approach. *Elsevier's Information and Software Technology (IST)*, 100:47–72, 2018.
- [20] Samaneh Hoseindoost, Afsaneh Fatemi, and Bahman Zamani. Towards a model-driven framework for simulating interactive emergency response environments. *Journal of Computing and Security (JCS)*, 5(1):35–49, 2018.
- [21] Bahman Zamani and Shiva Rasoulzadeh. A domain specific modeling language for enterprise application development. *International Journal of Information Technologies and Systems Approach (IJITSA)*, 11(2):51–70, 2018.

- [22] Mahsa Sadat Panahandeh and Bahman Zamani. Automatic pattern proposition in transformation life cycle. *International Journal of Information Technologies and Systems Approach (IJITSA)*, 10(2):1–16, 2017.
- [23] Amin Rezaee and Bahman Zamani. A novel approach to automatic model-based test case generation. *Scientia Iranica D*, 24(6):3132–3147, 2017.
- [24] Marzieh Safarzadeh, Mahboubeh Taghizadeh, Bahman Zamani, and Behrouz Tork-Ladani. An automatic test case generator for evaluating implementation of access control policies. *The ISC International Journal of Information Security (ISeCure)*, 9(1):73–91, 2017.
- [25] Alireza Rouhi and Bahman Zamani. A model-based framework for automatic generation of a pattern language verifier. *Wiley’s Software: Practice and Experience (SPE)*, 47(12):1945–1980, 2017.
- [26] Alireza Rouhi and Bahman Zamani. Towards a formal model of patterns and pattern languages. *Elsevier’s Information and Software Technology (IST)*, 79:1–16, 2016.
- [27] Leila Samimi-Dehkordi, Alireza Khalilian, and Bahman Zamani. Applying programming language evaluation criteria for model transformation languages. *Chinese Academy of Sciences’ International Journal of Software & Informatics*, 10(4):1–50, 2016.
- [28] Bahman Zamani and Greg Butler. Pattern language verification in model driven design. *Elsevier’s Information Sciences*, 237:343–355, 2013.
- [29] Samaneh Vaez Dalili, Sayed Mehran Sharafi, and Bahman Zamani. A new model-based test technique using formal specification of software architectures. *International Review on Computers and Software (IRECOS)*, 7(1):31–39, 2012.
- [30] Bahman Zamani and Greg Butler. Smell detection in UML designs which utilize pattern languages. *Iranian Journal of Electrical and Computer Engineering (IJECE)*, 8(1):47–52, 2009.
- [31] Bahman Zamani, Greg Butler, and Sahar Kayhani. Tool support for pattern selection and use. *Elsevier’s Electronic Notes in Theoretical Computer Science (ENTCS)*, 233:127–142, 2009.

Conference Papers:

- [1] Mahdi Ziaei, Bahman Zamani, and Ali Bohlooli. A model-driven approach for IoT-Based monitoring systems in industry 4.0. In *Proc. 4th International Conference on Smart City, Internet of Things and Applications (SCIOT 2020)*. IEEE, 2020.
- [2] Mohammadreza Sharbaf, Bahman Zamani, and Gerson Sunyé. A formalism for specifying model merging conflicts. In *Proc. 12th System Analysis and Modelling Conference (SAM 2020)*. ACM, 2020.
- [3] Atefeh Nirumand, Zahra Rajaei, Bahman Zamani, and Shekoufeh Kolaahdouz-Rahimi. Modeling Android security using an extension of knowledge discovery metamodel. In *Proc. 10th International Conference on Computer and Knowledge Engineering (ICCKE 2020)*. IEEE, 2020.

- [4] Hayyan Hasan, Behrouz Tork-Ladani, and Bahman Zamani. Enhancing Monkey to trigger malicious payloads in android malware. In *Proc. 17th International ISC (Iranian Society of Cryptology) Conference on Information Security and Cryptology (ISCISC'20)*. Iranian Society of Cryptology, 2020.
- [5] Hanan Daher, Samaneh HoseinDoost, Bahman Zamani, and Afsaneh Fatemi. A novel approach for developing emergency evacuation plans. In *Proc. 10th International Conference on Computer and Knowledge Engineering (ICCKE 2020)*. IEEE, 2020.
- [6] Sorour Jahanbin and Bahman Zamani. Test model generation using equivalence partitioning. In *Proc. 8th International Conference on Computer and Knowledge Engineering (ICCKE 2018)*, pages 98–103. IEEE, 2018.
- [7] Samaneh Hoseindoost, Meysam Karimi, Shekoufeh Kolahdouz-Rahimi, and Bahman Zamani. Solving the quality-based software-selection and hardware-mapping problem with ACO. In *Proc. 11th Transformation Tool Contest (TTC 2018)*, 2018.
- [8] Mohammadreza Sharbaf and Bahman Zamani. A UML profile for modeling the conflicts in model merging. In *Proc. 4th International Conference on Knowledge-Based Engineering and Innovation (KBEI 2017)*, pages 0197–0202. IEEE, 2017.
- [9] Mohammadreza Sharbaf, Shekoufeh Kolahdouz-Rahimi, and Bahman Zamani. Solving the state elimination case study using Epsilon. In *Proc. 10th Transformation Tool Contest (TTC 2017)*, 2017.
- [10] Leila Samimi-Dehkordi, Bahman Zamani, and Shekoufeh Kolahdouz-Rahimi. Solving the families to persons case using EVL+Strace. In *Proc. 10th Transformation Tool Contest (TTC 2017)*, 2017.
- [11] Banafsheh Azizi, Bahman Zamani, and Shekoufeh Kolahdouz-Rahimi. Contract verification of ETL transformations. In *Proc. 7th International Conference on Computer and Knowledge Engineering (ICCKE 2017)*, pages 154–160. IEEE, 2017.
- [12] Leila Samimi-Dehkordi, Bahman Zamani, and Shekoufeh Kolahdouz-Rahimi. Bidirectional model transformation approaches a comparative study. In *Proc. 6th International Conference on Computer and Knowledge Engineering (ICCKE 2016)*, pages 314–320. IEEE, 2016.
- [13] Alireza Khalilian, Ahmad Baraani-Dastjerdi, and Bahman Zamani. On the evaluation of automatic program repair techniques and tools. In *Proc. 24th Iranian Conference on Electrical Engineering (ICEE 2016)*, pages 61–66. IEEE, 2016.
- [14] Fazilat Hojaji, Bahman Zamani, and Abdelwahab Hamou-Lhadj. Towards a tracing framework for model-driven software systems. In *Proc. 6th International Conference on Computer and Knowledge Engineering (ICCKE 2016)*, pages 298–303. IEEE, 2016.
- [15] Mohammadreza Sharbaf, Bahman Zamani, and Behrouz Tork-Ladani. Towards automatic generation of formal specifications for UML consistency verification. In *Proc. 2nd International Conference on Knowledge-Based Engineering and Innovation (KBEI 2015)*, pages 860–865. IEEE, 2015.

- [16] Leila Samimi-Dehkordi, Bahman Zamani, and Shekoufeh Kolahdouz-Rahimi. From trace-based inter-model validation to bidirectional model synchronization with reconciliation. In *Proc. 5th International Conference on Computer and Knowledge Engineering (ICCKE 2015)*, pages 123–130. IEEE, 2015.
- [17] Leila Samimi-Dehkordi, Alireza Khalilian, and Bahman Zamani. Programming language criteria for model transformation evaluation. In *Proc. 4th International Conference on Computer and Knowledge Engineering (ICCKE 2014)*, pages 370–375. IEEE, 2014.
- [18] Tahereh Adamzadeh, Bahman Zamani, and Afsaneh Fatemi. A modeling language to model mitigation in emergency response environments. In *Proc. 4th International Conference on Computer and Knowledge Engineering (ICCKE 2014)*, pages 302–307. IEEE, 2014.
- [19] Bahman Zamani and Greg Butler. Describing pattern languages for checking design models. In *Proc. 16th Asia-Pacific Software Engineering Conference (APSEC'09)*, pages 197–204. IEEE, 2009.
- [20] Bahman Zamani, Sahar Kayhani, and Greg Butler. A pattern language verifier for web-based enterprise applications. In *Proc. 11th International Conference on Model Driven Engineering Languages and Systems (MODELS'08)*, volume 5301 of *Lecture Notes in Computer Science*, pages 553–567. Springer, 2008.
- [21] Bahman Zamani and Greg Butler. Critiquing the application of pattern languages on uml models. In *Proc. 2nd Workshop on Quality in Modeling, MODELS'07*, pages 18–35, 2007.

RESEARCH GRANT FUNDING

Project: Partnership in R&D for Mobarekeh Steel Company Sep. 2016 - Sep. 2019

Role: Principal Applicant

Funding Source: Mobarekeh Steel Company, Isfahan, Iran

Budget: 3,170,000,000 IRR

Project: Lossless Compaction of Execution Traces Sep. 2017 - Sep. 2018

Role: Principal Applicant

Funding Source: IMPULSE Iran-Austria

Budget: 11,300 Euros

Austrian Partner: Business Informatics Group (BIG), Vienna University of Technology

Project: Establishing the ICT Think Tank for Isfahan Municipality May. 2016 - Mar. 2018

Role: Principal Applicant

Funding Source: Isfahan Municipality, Isfahan, Iran

Budget: 163,000,000 IRR

Project: Specifying a Customized Software Development Methodology

...

Oct. 2016 - Nov. 2017

Role: Principal Applicant

Funding Source: Isfahan Municipality, Isfahan, Iran

Budget: 197,000,000 IRR

Project: Designing a Reference Model of Enterprise Architecture for Iranian Municipalities

...

Dec. 2013 - Mar. 2016

Role: Consultant

Funding Source: Isfahan Municipality, Isfahan, Iran

Budget: 132,000,000 IRR

Project: Specifying a Process for Requirements Definition and Management in Software Development Projects May. 2015 - Jun. 2016

Role: Principal Applicant

Funding Source: Isfahan Municipality, Isfahan, Iran

Budget: 670,000,000 IRR

Project: Identifying Failure Factors of the Software Projects May. 2013 - Jul. 2014

Role: Principal Applicant

Funding Source: Isfahan Municipality, Isfahan, Iran

Budget: 397,000,000 IRR

GRADUATE STUDENT SUPERVISION

<i>PhD Students</i>	
Athareh Fatemian	Sep. 2020 -
Co-Supervised by Dr. Behrouz Tork Ladani	
Thesis Title: TBD	
Zahra Bagheri Nasab	Sep. 2020 -
Co-Supervised by Dr. Shekoufeh Kollahdouz Rahimi	
Thesis Title: TBD	
Hamed Barangi	Sep. 2019 -
Co-Supervised by Dr. Shekoufeh Kollahdouz Rahimi	
Thesis Title: TBD	
Atefeh Niroomand	Sep. 2018 -
Co-Supervised by Dr. Behrouz Tork Ladani	
Thesis Title: An Integrated Model-based Framework for Inter-App Communication Security Analysis of Android Apps	
Hayyan Hasan	Sep. 2017 -
Co-Supervised by Dr. Behrouz Tork Ladani	
Thesis Title: A Compiler for Defeating Anti-Analysis Techniques in Android Malware	
Samaneh Hoseindoost	Sep. 2017 -
Co-Supervised by Dr. Afsaneh Fatemi	
Thesis Title: A Model-driven Approach for Modeling and Assessment of Coordination Strategies for Crisis Response	
Mohammadreza Sharbaf	Sep. 2016 -
Co-Supervised by Dr. Gerson Sunye from the University of Nantes, France	
Thesis Title: A Framework for Semi-Automatic Conflict Management in Online and Offline Collaborative Modeling	
Hosein Moradi	Sep. 2013 - Sep. 2020
Co-Supervised by Dr. Kamran Zamanifar	
Thesis Title: Model-Driven Development of Context-aware Service Composition	
Fazilat Hojaji Najafabadi	Sep. 2013 - Jul. 2019
Co-Supervised by Prof. Wahab Hamou-Lhadj from the Concordia University, Montreal, Canada	
Thesis Title: Techniques to Compact Model Execution Traces in Model Driven Approach	
Alireza Khalilian	Feb. 2013 - Apr. 2021
Co-Supervised by Dr. Ahmad Baraani-Dastjerdi	

Thesis Title: Program Analysis Techniques for Domain-Specific Debugging of Software Errors

Leila Samimi Dehkordi Sep. 2012 - Apr. 2019

Co-Supervised by Dr. Shekoufeh Kolaheidouz Rahimi

Thesis Title: Model-Driven Development of Bidirectional Model Transformations

Alireza Rouhi Sep. 2011 - Sep. 2017

Thesis Title: Presenting a Process for Generating a Pattern Language Verifier

Master's Students

MohammadHasan Ebrahimi Sep. 2020 -

Thesis Title: TBD

Zohreh Hashemian Sep. 2020 -

Thesis Title: TBD

Sara Ghadiri Sep. 2020 -

Thesis Title: TBD

Shayan Badiei Sep. 2019 -

Thesis Title: A Low-Code Framework for Developing Educational Chatbots

Mohammad-Sajad Kasaei Sep. 2019 -

Thesis Title: A New Framework for Consistent N-Way Model Merging

Mehdi Ziyae Sep. 2018 - Mar. 2021

Co-Supervised by Dr. Ali Bohlooli

Thesis Title: A Model Driven Framework for Code Generation of FPGA-Based Monitoring Systems in Industry 4.0

Hanan Daher Sep. 2018 - Jan. 2021

Thesis Title: A Domain Specific Modeling Language for Modeling Emergency Evacuation Plans

Maryam Mehrabi Sep. 2017 - Oct. 2020

Thesis Title: A Domain Specific Modeling Language for IoT-Based Health Monitoring Applications

Sara Adib Sep. 2017 - Jun. 2020

Thesis Title: A Framework for Model-Driven Development of Context-Aware Recommender Mobile Applications

Marzieh Ghorbani Sep. 2016 - Jul. 2019

Thesis Title: A Novel Approach for Incremental Model Transformations with ETL

Sorour Jahanbin Sep. 2016 - Mar. 2019
Thesis Title: A New Approach for Generating Test Models in Model Transformation Testing

Banafsheh Azizi Sep. 2015 - Jan. 2018
Co-Supervised by Dr. Shekoufeh Kolaheidouz Rahimi
Thesis Title: A Novel Approach for Verifying Epsilon Transformations

Neda Karshenas Sep. 2015 - Sep. 2018
Co-Supervised by Dr. Shekoufeh Kolaheidouz Rahimi
Thesis Title: A New Approach for Application of Transformation Patterns in Model Transformation Language Using HOT

Atefeh Niroomand Sep. 2015 - Jan. 2018
Co-Supervised by Dr. Behrouz Tork Ladani
Thesis Title: A Model Driven Reverse Engineering Approach for Evaluating the Implemented Access Control Policies

Zahra Jafari Fesharaki Sep. 2014 - Feb. 2017
Co-Supervised by Dr. Afsaneh Fatemi
Thesis Title: A Graphical Metamodel for Crisis Management using Multi Agent Systems

Samaneh Hoseindoost Sep. 2014 - Apr. 2017
Co-Supervised by Dr. Afsaneh Fatemi
Thesis Title: A Model Driven Framework for Developing Multi-Agent Systems in EREs

Mohammadreza Sharbaf Sep. 2014 - Sep. 2016
Thesis Title: A New Approach for Detection and Resolution of Semantic Conflicts in Model Versioning

Amir Savari Sep. 2013 - Dec. 2016
Thesis Title: Automated Test Case Generation and Oracle by Combination of UML Diagrams

Rahim Lotfi Sep. 2013 - Sep. 2015
Thesis Title: A New Pattern for Architectural Design of Enterprise Applications to Facilitate Automatic Code Generation

Mahsa Sadat Panahandeh Sep. 2012 - Feb. 2015
Thesis Title: A Novel Approach for Improving Model Transformation Life Cycle

Shiva Rasoolzadeh Sheikh Sep. 2012 - Feb. 2015
Thesis Title: A UML Profile for Patterns of Enterprise Application Architecture

Tahereh Adamzadeh Sep. 2012 - Feb. 2015
Co-Supervised by Dr. Afsaneh Fatemi

Thesis Title: A Modeling Language for Developing Multi-Agent Systems in Emergency Response Environments

Mohammad-Reza Azodi

Sep. 2011 - Feb. 2015

Thesis Title: Modeling Non-functional Requirements in Service Oriented Architecture using Model Driven Methods

Amin Rezaee

Sep. 2011 - Feb. 2014

Thesis Title: A New Approach to Optimized Generation of Test Cases using UML State Machines

Mahboubeh Taghizadeh

Sep. 2011 - Feb. 2014

Co-Supervised by Dr. Behrouz Tork Ladani

Thesis Title: A New Approach to Automated Testing of Access Control Policies using Model Based Technique

AWARDS AND SCHOLARSHIPS

- “Best Paper” Award* Sep. 2019
For paper “Model Execution Tracing: a Systematic Mapping Study” published in SoSyM 2019
- “Distinguished Researcher of the Faculty of Computer Engineering”* Nov. 2018
Awarded by the Vice-Chancellor of Research, University of Isfahan
- “Most Scalable Solution” and “Audience” Awards* Jun. 2018
For paper “Solving the Quality-based Software-Selection and Hardware-Mapping Problem with ACO” at 11th Transformation Tool Contest (TTC 2018)
- “Most Complete” and “Audience” Awards* Jun. 2017
For paper “Solving the Families to Persons Case using EVL+Strace” at 10th Transformation Tool Contest (TTC 2017)
- “Best Overall”, “Most Abstract”, and “Audience” Awards* Jun. 2017
For paper “Solving the State Elimination Case Study using Epsilon” at 10th Transformation Tool Contest (TTC 2017)
- PhD Scholarship* Jan. 2004 - Dec 2007
Awarded by the Ministry of Science, Research, and Technology (MSRT), Iran

INVITED TALKS AND WORKSHOPS

- Talk on Automatic Generation of COVID-19 Dashboard Mobile App* Aug. 2020
Location: Isfahan University of Technology (Webinar on Iran-Switzerland Online Experience Exchange)
- Talk on Automation by Model-Driven Engineering* Feb. 2020
Location: Computer Research Institute of Montréal (CRIM), Montreal, Quebec, Canada
- Workshop on Model-Based Design, Test, and Verification of Software* Jun. 2019
By collaborators from Michigan State University, Isfahan University of Technology, and University of Zanjan
Location: University of Isfahan, Isfahan, Iran
- Workshop on Automatic Generation of Location-Based Android Applications Using a Model-Driven Approach* Nov. 2017
Location: University of Isfahan, Isfahan, Iran
- Talk on Requirements Engineering and Project Success* Dec. 2014
Event: 3rd National Festival on Urban-Research

Location: Isfahan Municipality, Isfahan, Iran

Talk on Process & Methodology in Software Development Nov. 2014
Event: Isfahan Automation & Computer Fair
Location: Isfahan Province International Exhibition, Isfahan, Iran

Panel on Academic Ethics Dec. 2012
Event: University Research Week
Location: University of Isfahan, Isfahan, Iran

Workshop on Typesetting Academic Papers using Latex Oct. 2010
Event: 6th Iranian Conference on Machine Vision and Image Processing (MVIP 2010)
Location: University of Isfahan, Isfahan, Iran

Talk on Computer Science vs. Software Engineering May. 2010
Event: University Research Week
Location: Sheikhbahae University, Isfahan, Iran

Talk on Model-Driven Software Engineering May. 2010
Event: University Research Week
Location: Majlesi Azad University, Isfahan, Iran

Talk on Agile Software Development Methodologies Oct. 2009
Event: ICT Managers Summit
Location: ICT Organization of Isfahan Municipality, Isfahan, Iran

Workshop on Latex for Graduate Students Oct. 2007
Location: Concordia University, Montreal, QC, Canada

TEACHING EXPERIENCE

University of Isfahan, Isfahan, Iran Sep. 2009 - Aug. 2019
Assistant/Associate Professor

- Teaching Undergraduate Courses
 - Formal Languages and Automata Theory
 - * Taught for more than 15 terms, using Peter Linz’s book entitled “Introduction To Formal Languages And Automata.”
 - Object-Oriented Analysis and Design
 - * Taught for more than 13 terms, using Craig Larman’s book entitled “Applying UML and Patterns: An Introduction to Object-Oriented Analysis and

Design and the Unified Process” and David C. Kung’s book entitled “Object-Oriented Software Engineering: An Agile Unified Methodology.”

- Software Engineering I & Software Engineering II
 - * Taught for 3 terms, using Roger Pressman’s book entitled “Software Engineering: A Practitioner’s Approach.”
- Design and Implementation of Programming Languages
 - * Taught for 8 terms, using Terrence W. Pratt’s book entitled “Programming Languages: Design and Implementation.”
- Fundamentals of Computers and Programming
 - * Taught for 2 terms using Deitel’s book entitled “Java How to Program.”
- Teaching Graduate Courses
 - Software Architecture (MSc Level)
 - Advanced Software Engineering (MSc Level)
 - Model-Driven Software Engineering (MSc & PhD Level)
 - Software Patterns (MSc & PhD Level)

Concordia University, Montreal, QC, Canada

Sep. 2006 - Sep. 2008

PhD Student

- Teaching Assistant for Undergraduate Courses
 - Software Process
 - Introduction to Theoretical Computer Science

Sheikhbahaee Private University, Isfahan, Iran

Sep. 1998 - Dec. 2003

Part-time Lecturer

- Teaching Undergraduate Courses
 - Discrete Structures
 - Principles of Compiler Design
 - Formal Languages and Automata Theory
 - Design and Implementation of Programming Languages

Islamic Azad University of Najafabad, Isfahan, Iran

Sep. 1997 - Dec. 2001

Part-time lecturer

- Teaching Undergraduate Courses
 - Advanced Programming
 - Principles of Compiler Design
 - Formal Languages and Automata Theory
 - Introduction to Computers and Programming
 - Design and Implementation of Programming Languages

ADMINISTRATIVE EXPERIENCE

Manager, Office of Industry Relations Oct. 2016 - Aug. 2019
University of Isfahan, Isfahan, Iran

- Managing 8 staff members
- The only connection point between the university and the industry

Chair, Department of Software Engineering Jan. 2013 - Jan. 2015
University of Isfahan, Isfahan, Iran

- Managing 9 professors, 30+ PhD students, 50+ MSc students, and 120+ BSc students
- Arranging and running the department bi-weekly meetings
- Hiring new faculty members
- Monitoring the quality of education and research at the department level

VP Academic, Department of Software Engineering Jan. 2010 - Dec. 2012
University of Isfahan, Isfahan, Iran

- Designing the course schedule at all levels, BSc, MSc, and PhD
- Updating the curricula of BSc and MSc level courses