

# FARHAD MARDUKHI



## Personal Information

### PhD

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## University Address:

Department of computer Engineering & Information Technology  
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Razi University  
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## Education

### Ph.D. Sep. 2012

**University:** IsfahanUniversity  
**Major:** Computer Engineering  
**Field:** Software Engineering  
**Thesis:** Dynamic Coordination of Services in Virtual Organizations –Sep. 2013

### M.S. Sep. 2000

**University:** IsfahanUniversity  
**Major:** Computer Engineering  
**Field:** Software Engineering  
**Thesis:** *Intelligent Information gathering to answer goal-based queries on the Web*  
**Average:** 17.66/20

### B.S. Feb. 1997

**University:** SharifUniversity of Technology  
**Major:** Computer Engineering  
**Field:** Software Engineering  
**Thesis:** *Distinguishing and classifying expected capabilities of OO CASE.*

## Work Experience

1. The **Associated professor of Dept.** of Computer Engineering of Razi University.
2. **The head of “Advanced Service-Oriented Enterprise Architecture”** LAB. Of Razi Uni (Currently). In this Lab, I’m working professionally on ICT planning, Enterprise Architecture, Developing reference models, business workflow enhancement, etc.
3. **The head member of Computer Community of Kermanshah** (from 2015 till now). Here, I’m trying to coordinate activities of private computer companies and related consultants to achieve better results in ICT business of Kermanshah. It takes just a little of time where limits to taking part in sessions.
4. **IRISA** (Iranian International System and Automation) - Sep 2001 ~ Sep 2004, Isfahan, Iran.

IRISA is the largest computer company in information systems development and Industrial automation. This company has produced many of Information Systems for large manufactures and organizations in Iran. This company has the highest rank among companies of software development in Iran. *My job titles were Methodologist and analyzer of IS.* I had worked near to years as sophisticated software methodologist, and participated in more than 8 large projects. A number of these projects are: Foladmobarake MIS upgrade, Pars-electric Company, TelecommunicationCenter in *Tehran and some office around it, Eksir Company, Tamco Company, Amin Company.*

I was researching on information systems development methods. I designed and prepared a Methodology for this purpose, supporting all phases of software development. Currently, this methodology is the custom method of software development in IRISA. Also, I published several technical reports related to software methodologies and reusability.

5. **WICT-CO**(A company that is activating on service oriented software development). This company is producing service-oriented applications. *I am project manager and analyst of systems in this company.* I partially worked in this company from 2003 up to 2006.
6. **BASA (International System Avaran Co).** This company is working on developing SOA frameworks, and producing application based on their private framework. Additionally, this company has performed a number of projects in other fields. I took part in this company as *software consultant.*
7. Central Bank of Islamic Republic of IRAN. I was employed in central bank in 1998. Our mission is to design and maintain the core banking systems. I continued this job only for 6 months. We were developing systems on mainframe platform.

8. Working in some organizations and companies as IT consultant such as Kermanshah, Medicine Science University, Mobarake Steel Co, Industrial, Economic and Mineral Org, Kermanshah Municipality.

## **Accomplished Recent Industrial Projects**

- 2016 **ICT strategic and operational planning for Kermanshah Municipality**, which will be finalized at the end of January 2017. It aims at planning of Kermanshah e-city.
- 2016 Developing a **reference model for e-services of Iranian Government at province, city and rural levels**. This project is a national project.
- 2015 An Integrated System for **e-Tender in School equipment Org.** of Kermanshah
- 2014 **Virtual Kermanshah Province Strategic and Executive Planning**, This project was done by a research team managed by me.
- 2011 "Detecting and classifying of e-services presented by government in Kish-island", I am alone in this project. I did this project based on **service-oriented enterprise architecture**.
- 2007 "**Developing a comprehensive system for strategic planning of manufacturing process in Mobareke-Steel Company**". This company is one of the largest steel companies in Middle-est. I worked as a software analyst in this project. This project was implemented in .NET platform using **C# and SQL** server.
- 2006 "**Information Enterprise Architecture of Razi University**", I am manager and methodologist of this project.
- 2006 "**Enterprise Web Portal**". This project is implemented as a package. I am programmer/designer in this project. We use **Java** to implement it.
- 2016 Developing **more than ten software systems** to business automation in medicine, industrial and educational areas.

## Membership

- Member of Kermanshah province ICT management committee
- Member of technical committee of ICT development in Kermanshah.
- Member of Cyber defense committee in Kermanshah
- Member of Incubator Center of Razi university
- Member of evaluation committee of ICT loans supporting ICT-related ideas.

## SKILLS

- Sophisticated in ICT master planning and Enterprise Architecture
- Sophisticated in **software development methods**
- Aware of the most of ICT laws in IRAN.
- Able to define the new jobs and the way of employment in virtual environment
- Familiar to structure, and business processes in governmental organizations, and most of private sectors.
- Sophisticated in software *reuse engineering* for information systems
- Having sufficient knowledge about **service oriented computing** such as designing service based application, implementing services in java platform, making BPEL workflow at Actvie-Bpel.
- Able to research in **adaptive and autonomic systems** in general, and particularly in coordination problem in such systems.
- Able to research in software *product line* and corporate with team who work on the related subjects.
- . Working with **WSMO** both practically (as a user) and theoretically.
- Able to **analysis and design** of large information systems(both OO and structural methods) with **Rational Rose** and **Oracle Designer**
- Able to programming **C# and Java**
- Able to management databases on **SQL server and Oracle.**
- Able to **teach the following courses** depend on my experience for 4year in university and private company: Software System Analysis and Design, MIS, Software Engineering, Advanced Algorithms, Advanced Topics in Software Engineering, TCP/IP and VS.NET programming.
- familiar with **distributed technology**( database, architecture and standards)
- Able to solve complex problems by **conventional and evolutionary algorithms**

## Research Interests

- Enterprise Architecture and IT planning
- IT Governance & IT service management frameworks
- Service-Oriented architecture and Cloud computing
- Algorithms design and evaluation
- Development of autonomic, and adaptive distributed systems
- Software Product Line (Methodology, Reusability, Automatic lines, so on)

## Journal Publications

- [1] M. Sepahvand; F. Abdali-Mohammadi; F. Mardukhi, "Evolutionary Metric-Learning-Based Recognition Algorithm for Online Isolated Persian/Arabic Characters, Reconstructed Using Inertial Pen Signals," in *IEEE Transactions on Cybernetics* , vol.PP, no.99, pp.1-13, doi: 10.1109 / TCYB.2016.2633318
- [2] M. Fazlali, P. Khodamoradi,F. Mardukhi, M. Nosrati, Detecting metamorphic malware variants via opcode frequency rate, *International Journal of Information Security and Privacy*, IJISP 10(3), 2016.
- [3] F. Mardukhi, N. NematBakhsh, K. Zamanifar, QCD: Quality Decomposition for Services Composition, *J. Applied Soft Computing*, 13(7): 3409-3421 (2013)
- [4] F. Mardukhi, N. NematBakhsh, K. Zamanifar, "An Adaptive Service Choreography approach based on Ontology-Driven Policy Refinement", *International Journal of Web & Semantic Technology (IJWesT)* Vol.2, No.2, April 2011
- [5] F. Mardukhi, N. NematBakhsh, K. Zamanifar, "EXTENDING WS-CDL TO SUPPORT REUSABILITY, *International Journal on Web Service Computing (IJWSC)*", Vol.2, No.1, March 2011
- [6] M. Kazemifard, A. Zaeri, N. Ghasem-Aghaee, M. Nemat-Bakhsh, F. Mardukhi, Fuzzy Emotional COCOMO II Software Cost Estimation Using Multi Agent Systems (FECSCCE), *J. Applied Soft Computing*, 11(2): 2260–2270 (2010)
- [7] H. Rezaie, N. Nematbakhsh, F. Mardukhi, A Multi-Objective Particle Swarm Optimization for Web Service Composition. *NDT* (2) 2010:112-122
- [8] [ReihanehKhorsandMotlaghEsfahani](#), FarhadMardukhi, [NaserNematbakhsh](#): Reputation Improved Web Services Discovery Based on QoS. [JCIT](#) 5(9): 206-214 (2010)
- [9] A. Mellat, N. Nematbakhsh, A. Farahi, F. Mardukhi, SUITABILITY OF UML STATE MACHINE FOR MODELING CHOREOGRAPHY OF SERVICES, *International Journal of Web & Semantic Technology (IJWesT)* Vol.2, No.4, April 2011

## Conference Publications- (several cases)

- [1] M. Fatahi, F. Mardukhi, "LBPM: Location-based Profit Maximization", IEEE-indexed AL-Sadeq International Conference on Multidisciplinary in IT & Communication Science & Application, Al-Sadeq University, IRAQ, 2016.
- [2] PeymanKhodamoradi, Mahmood Fazlali, FarhadMardukhi, and MasoudNosrati. Heuristic metamorphic malware detection based on statistics of assembly instructions using classification algorithm, the 18<sup>th</sup> CSI International Symposium on Computer Architecture & Digital Systems (CADS2015), October 7-8, 2015 Department of Computer Engineering, Sharif University of Technology, Tehran, IRAN.
- [3] **F. Mardukhi**, N. Nematbakhsh, K. Zamanifar, An Approach for Classifying and Ranking Governmental E-Services, 3th International Conference on E-Commerce: Focus on Developing Countries, 2008
- [4] Mardukhi F., Zamanifar K., "**Cyrus: A Flexible Framework to Integrate Distributed Services**", IADIS WWW/Internet 2008 conference, Friburge, Germany, 2008
- [5] Rahimi M., Mardukhi F., "**Policy-Based Service Composition**", IADIS WWW/Internet 2008 conference, Friburg, Germany, 2008.
- [6] Mardukhi F., Nematbakh N., "*Engineering Practices and Guidelines to Enhance Reuse Adequacy in Software Product Line Analysis*", SETP-07(International Conference on Software Engineering Theory and Practice), Orlando, USA, 2007.
- [7] [NaserNematbakhsh](#), FarhadMardukhi, [HasanMohammadkhani](#): Proposition of a Query Planner for Semantic Web Services. [SSME 2009](#): 366-369
- [8] Z. Madani, N. NematBaksh, K. Zamifar, F. Mardukhi, A Logical Representation and Verification of Web Service Choreography, 010 Asia-Pacific Conference on Wearable Computing Systems, 2010
- [9] B. Zibanezhad, K. Zamanifar, N. Nematbakhsh, F. Mardukhi, An Approach for Web Services Composition Based on QoS and Gravitational Search Algorithm, 6th International Conference on Innovations in Information Technology, 2009
- [10] K. [Zamanifar](#), [Kamran](#), G. [Heidary](#), N. [Nematbakhsh](#), and F. [Mardukhi](#), A New Approach for Semantic Web Matching, Security-Enriched Urban Computing and Smart Grid, Communications in Computer and Information Science, Volume 78. ISBN 978-3-642-16443-9. Springer Berlin Heidelberg, 2010, p. 77
- [11] Rahimi M., Mardukhi F., "*Policy-Based Service Composition*", Submitted for IADIS WWW/Internet 2008 conference, Friburg, Germany, 2008.

- [12] Momeni M., Matinfar F., Mardukhi F., "Desiging an Agent-Oriented Searching Serivce for Semantic Grid using Ontology", National Electrical Engineering Conference, NajafAbad Azad University, Isfahan, Iran, March 2008.
- [13] Ghorbani M, Mardukhi F., "Semantic Grid: A Vision for realizing the Virtual Organizations", The Proceeseding of the first International E-commerce Conference, Isfahan, Iran, October 2008.
- [14] [Mehdi Etehad](#)i, FarhadMardukhi, [NaserNematbakhsh](#): A graphical representation for WS-CDL supporting multi levels of abstraction. [APSCC 2009](#): 366-371
- [15] M. Bakhshi, F. Mardukhi, N. Nematbakhsh, A fuzzy-based approach for selecting the optimal composition of services according to user preferences, The 2nd International Conference on Computer and Automation Engineering (ICCAE), 2010
- [16] R. K. MotlaghEsfahani, N. Nematbakhsh, M. DavarpanahJazi, F. Mardukhi Quality aware service discovery using service level agreements, International Conference on Software Engineering Theory and Practice (SETP-10), Orlando, Florida, USA, July 12-14, 2010

[۱۷] نادیا حاضری، فرهاد مردوخی، محمود فضلعلی، بررسی الگوریتم‌های تکاملی بهینه‌سازی کلونی مورچه‌ها، بهینه سازی انبوه ذرات، شبیه‌سازی تبرید و رقابت استعماری در مسائل دشوار، سومین کنفرانس بین المللی پژوهش های کاربردی در علوم کامپیوتر و فناوری اطلاعات، دانشگاه تربیت مدرس، تهران، ایران، بهمن ۹۴

[۱۸] نادیا حاضری، فرهاد مردوخی، محمود فضلعلی، بهینه سازی ترکیبی برای مسئله زمانبندی کارها توسط الگوریتم ژنتیک در سیستم گرید، سومین کنفرانس بین المللی پژوهش های کاربردی در علوم کامپیوتر و فناوری اطلاعات، دانشگاه تربیت مدرس، تهران، ایران، بهمن ۹۴

[۱۹] نوشین باباخانی، فرهاد مردوخی، بهبود مصرف انرژی کشف تطبیق پذیر منابع در محیط محاسبات ابری موبایل، کنفرانس بین المللی پژوهش های کاربردی در فناوری اطلاعات، کامپیوتر و مخابرات، دانشگاه آزاد اسلامی تربت حیدریه، آبان ماه ۹۴

[۲۰] فرهاد مردوخی، ناصر نعمت بخش، کامران زمانی فر، یک رویه بالا به پایین و چند دیدی برای مدلسازی کروگرافی سرویس ها، پانزدهمین کنفرانس انجمن کامپیوتر ایران، اسفندماه ۸۸

[۲۱] صدیقه جاورسینه، سیما عبادی و فرهاد مردوخی، مروری بر تکنیک‌های جایگزینی سرویس های وب در معاری سرویس گرا، اولین کنفرانس نوآوری در مهندسی کامپیوتر و فناوری اطلاعات، آذرماه ۹۲، تنکابن، ایران

[۲۲] الهام احمدی، فرهاد مردوخی و ادیب شیخ احمدی، استفاده از داده کاوی در اولویت بندی وب سرویس ها با توجه به ویژگی های روان شناختی کاربر، چهارمین کنفرانس بین المللی مدیریت فناوری اطلاعات، ارتباطات و کامپیوتر، خردادماه ۹۳، موسسه آموزشی - تحقیقاتی نورباران اندیشه، قم

## Research Experiences

- I'm working on two main pragmatic projects these days: one is a national project aiming at developing a reference model for Iranian e-government services; the second is to developing ICT master planning for Kermanshah Municipality.
- I established a sophisticated lab, namely Service-Oriented Enterprise Architecture, to handle pragmatic researching on Enterprise architecture and IT planning. There is an agreement among ICT council of IRAN, and Beheshti Uni, and Razi Uni to launch and support this Lab. I'm managing this Lab now.
- I accomplished two important projects in Kermanshah in 2014, one is planning for virtualization of this province (The Master plan), and another is development of an integrated system to perform procurement, namely e-procurement.
- I have been working on coordination problem in distributed system for 3 years. I established a research team for this subject in which six students participate.
- Researching on OO methodologies, and the CASE tools supporting them. I summarized the capabilities of CASE tools needed to automate the life cycle of software development.
- Member of a research team in IRISA co, intending to implement a systematic and total reuse methodology in software development process.
- Detecting, and classifying the e-services of government in Kish-island. Kish-island is one of free zone in Iran. I performed this project in 2007.
- A manager and methodologist of preparing enterprise information architecture for Mobareke-Steel Company, and University of Razi. We performed these projects based on service-oriented thinking.
- Research on e-government model to implement in Kermanshah province (a west province in Iran). This research was finished in 2004, and I delivered an executive plan to direct establishment of e-government in that province.
- I researched on most of popular software engineering. I customized some of them fitting to condition of the company I was working in. For example, I sophisticated in MSF, RUP, CDM fast track, CDM classic, and SOEA. Also, I familiar with several others.
- I researched on a proper framework to develop information architecture of insurance industry in IRAN. In result, I delivered a conceptual framework to direct the project.
- I was activating in both engineering and researching projects during my working experience.



## Teaching Experience

1. I'm full time assistant professor in Razi university from 2007, and teach the following courses:
  - 1.1. "*Software Engineering*".
  - 1.2. "*Computer Networks*".
  - 1.3. "Data Structure & Algorithm"
  - 1.4. "Management Information Systems"
  - 1.5. "Enterprise ICT planning"
  
2. Isfahan University- Partially working
  - 2.1. "*Data Base Management System*".
  - 2.3. "*Data Structure and Algorithm*".
  - 2.4. "*Advanced Programming*".
  
3. Other educational insinuates
  - 3.1. "Advanced Topics in Software Engineering"
  - 3.2. "Advanced Algorithms"

## Workshop and Seminar

I have presented more than fifteen seminars for industrial fields, and a number of seminars related to university courses. Some of the seminars were presented for industries are followed:

**"How to customize e-government development planning for Kermanshah province"**, presented for IT-personals of governmental agencies of Kermanshah, March 2015.

**"How to Classifying e-service in an organization"**, presented for related employees of Foolad-Mobareke Co,(Foolad-Mobareke is the largest steel company in Middle-Est), November 2007

**"Service Oriented Computing: Concepts, Framework, Software development"**, presented for sophisticated engineering of IRISA Co, September 2007

**"E-Learning: Standards, Methods, and Tools"**, presented for professors of RaziUniversity, June 2007

**" E-Organizations: Models, Planning, and Establishment"**, presented for sophisticated engineering of IRISA Co, September 2006

**"How Post-Bank go ahead in presenting e-services in IRAN"**, presented for central post-bank of IRAN, March 2005

**"Detecting and Classifying of governmental e-services in Kermanshah province"**, presented for high level officials managers, December 2004

**"A Systematic Reuse Methodology for Large information Systems developing"**, presented for related engineers working in IRISA co. This methodology was prepared innovative by myself during 2 years, November 2003

**"ERP Vs MIS"**, presented for employees of WICT-Co. this company is activating in information systems developments, March 2003

**"Object Oriented Software Development: Concepts, RUP, and Rational Rose"**, presented for IRISA engineers, March 2002.