

Naeem Esfahani

Software Engineer
Google Inc.

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EDUCATION

- **George Mason University**
Ph.D. in Computer Science 2008 - 2014
 - Thesis: “Management of Uncertainty in Self-Adaptive Software”
 - Advisor: Dr. Malek
- **Sharif University of Technology**
M.Sc. in Computer Engineering 2005 - 2008
 - Thesis: “Introducing a set of process patterns for development of real-time software”
 - Advisor: Dr. Mirian-Hosseinabadi
- **University of Tehran**
B.Sc. in Electrical and Computer Engineering 2001 - 2005
 - Final Project: “UT-Plag, A System to find plagiarism in a collection of texts”
 - Advisor: Dr. Sirjani

WORK EXPERIENCE

- **Software Engineer**
Google Inc., Mountain View, California, USA August 2014 - present
- **Graduate Research Assistant**
George Mason University, Fairfax, Virginia, USA September 2008 - July 2014
- **Software Engineering Intern**
Google Inc., Mountain View, California, USA May 2013 - August 2013
- **Software Engineering Intern**
Google Inc., New York City, New York, USA September 2011 - December 2011
- **Mobile Software Engineering Intern**
Sysnet Group, Fairfax, Virginia, USA May 2010 - August 2010
- **IK Card project architecture consultant**
Iran Khodro, Tehran, Iran March 2006 - October 2006
- **J2EE developer and designer**
A'van Corp, Tehran, Iran July 2005 - March 2006
- **Research & Development**
Eide Pardazan Corp, Tehran, Iran July 2004 - January 2005
- **Admin of Linux server and clients**
ECE department, University of Tehran, Tehran, Iran July 2003 - October 2004

RESEARCH INTERESTS

- Software Engineering
- Software Architecture and Design
- Software Analysis and Testing
- Mobile and Pervasive Software Systems

Refereed Journal Articles and Book Chapters:

- TAAS** J3. Eric Yuan, **Naeem Esfahani**, and Sam Malek. “*A Systematic Survey of Self-Protecting Software Systems*”. ACM Transactions on Autonomous and Adaptive Systems (TAAS), Vol. 8, No. 4, January 2014.
- TSE** J2. **Naeem Esfahani**, Ahmed Elkhodary, and Sam Malek. “*A Learning-Based Framework for Engineering Feature-Oriented Self-Adaptive Software Systems*”. IEEE Transactions on Software Engineering (TSE), Vol. 39, No. 11, November 2013.
- B1. **Naeem Esfahani** and Sam Malek. “*Uncertainty in Self-Adaptive Software Systems*”. Software Engineering for Self-Adaptive Systems II (SEfSAS 2 Book), Editors R. de Lemos, H. Giese, H. Müller and M. Shaw, Lecture Notes on Computer Science Hot Topics, Springer, 2013.
- IST** J1. **Naeem Esfahani** and Sam Malek. “*Utilizing Architectural Styles to Enhance Adaptation Support in Middleware Platforms*”. Information and Software Technology (IST) Journal, Vol. 54, No. 7, July 2012.

Refereed Conference and Workshop Proceedings:

- SEAMS** C15. Eric Yuan, **Naeem Esfahani**, and Sam Malek. “*Automated Mining of Software Component Interactions for Self-Adaptation*”. The 9th International Conference on Software Engineering for Adaptive and Self-Managing Systems (SEAMS 2014), Hyderabad, India, June 2014. (19% acceptance rate)
- FASE** C14. Alireza Sadeghi, **Naeem Esfahani**, and Sam Malek. “*Mining the Categorized Software Repositories to Improve the Analysis of Security Vulnerabilities*”. The 17th International Conference on Fundamental Approaches to Software Engineering (FASE 2014), Grenoble, France, April 2014. (23% acceptance rate)
- ICSE** C13. **Naeem Esfahani**, Sam Malek, and Kaveh Razavi. “*GuideArch: Guiding the Exploration of Architectural Solution Space under Uncertainty*”. The 35th International Conference on Software Engineering (ICSE 2013), San Francisco, California, USA, May 2013. (18% acceptance rate)
- W4. Nariman Mirzaei, Sam Malek, Corina S. Păsăreanu, **Naeem Esfahani**, and Riyadh Mahmood. “*Testing Android Apps Through Symbolic Execution*”. The Java Pathfinder Workshop 2012 (JPF 2012), Cary, North Carolina, USA, November 2012.
- FSE** C12. **Naeem Esfahani**, Kaveh Razavi, and Sam Malek. “*Dealing with Uncertainty in Early Software Architecture*”. The 20th International Symposium on the Foundations of Software Engineering (2012 FSE-20), New Ideas and Emerging Results (NIER) Track, Cary, North Carolina, USA, November 2012. (20% acceptance rate)
- NIER**
- FSE** C11. Kyle R. Canavera, **Naeem Esfahani**, and Sam Malek. “*Mining the Execution History of a Software System to Infer the Best Time for its Adaptation*”. The 20th International Symposium on the Foundations of Software Engineering (2012 FSE-20), Cary, North Carolina, USA, November 2012. (17% acceptance rate)
- W3. Riyadh Mahmood, **Naeem Esfahani**, Thabet Kacem, Nariman Mirzaei, Sam Malek, and Angelos Stavrou. “*A Whitebox Approach for Automated Security Testing of Android Applications on the Cloud*”. The 7th International Workshop on Automation of Software Test (AST 2012), Zurich, Switzerland, June 2012.
- C10. Sam Malek, **Naeem Esfahani**, Thabet Kacem, Riyadh Mahmood, Nariman Mirzaei, and Angelos Stavrou. “*A Framework for Automated Security Testing of Android Applications on the Cloud*”. The 6th International Conference on Software Security and Reliability (SERE 2012), Washington, DC, USA, June 2012.

- ASE DS** C9. **Naeem Esfahani**. “*A Framework for Managing Uncertainty in Self-Adaptive Software Systems*”. The 26th IEEE/ACM International Conference On Automated Software Engineering (ASE 2011), Doctoral Symposium (DS), Lawrence, Kansas, USA, November 2011.
- FSE** C8. **Naeem Esfahani**, Ehsan Kouroshfar, and Sam Malek. “*Taming Uncertainty in Self-Adaptive Software*”. The 8th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE 2011), Szeged, Hungary, September 2011. (16% acceptance rate)
- FSE** C7. Ahmed Elkhodary, **Naeem Esfahani**, and Sam Malek. “*FUSION: A Learning-Based Approach for Engineering Self-Adaptive Software Systems*”. The 18th International Symposium on the Foundations of Software Engineering (2010 FSE-18), Santa Fe, New Mexico, USA, November 2010. (20% acceptance rate)
- C6. **Naeem Esfahani** and Sam Malek. “*On the Role of Architectural Styles in Improving the Adaptation Support of Middleware Platforms*”. The 4th European Conference on Software Architecture (ECSA 2010), Copenhagen, Denmark, August 2010.
- C5. Mohsen Asadi, **Naeem Esfahani**, and Raman Ramsin. “*Process Patterns for MDA-Based Software Development*”. The 8th ACIS Conference on Software Engineering Research, management and Applications (SERA 2010), Montreal, Canada, May 2010.
- ICSE
NIER** C4. **Naeem Esfahani** and Sam Malek. “*Social Computing Networks: A New Paradigm for Engineering Self-Adaptive Pervasive Software Systems*”. The 32nd International Conference on Software Engineering (ICSE 2010), New Ideas and Emerging Results (NIER) Track, Cape Town, South Africa, May 2010. (25% acceptance rate)
- W2. Ahmed Elkhodary, Sam Malek, and **Naeem Esfahani**. “*On the Role of Features in Analyzing the Architecture of Self-Adaptive Software Systems*”. The 4th International Workshop on models@runtime, Denver, Colorado, USA, October 2009. (20% acceptance rate)
- MODELS** C3. **Naeem Esfahani**, Sam Malek, João P. Sousa, Hassan Gomaa, and Daniel A. Menascé. “*A Modeling Language for Activity-Oriented Composition of Service-Oriented Software Systems*”. The 12th International Conference on Model Driven Engineering Languages and Systems (MODELS 2009), Denver, Colorado, USA, October 2009. (16% acceptance rate)
- W1. Sam Malek, **Naeem Esfahani**, Daniel A. Menascé, João P. Sousa, and Hassan Gomaa. “*Self-Architecting Software SYstems (SASSY) from QoS-Annotated Activity Models*”. The 31st International Conference on Software Engineering (ICSE 2009) workshop on Principles of Engineering Service Oriented Systems (PESOS 2009), Vancouver, Canada, May 2009. (23% acceptance rate)
- C2. **Naeem Esfahani**, Seyyed-Hassan Mirian-Hosseinabadi, and Kamyar Rafati. “*Real-Time Analysis Process Patterns*”. The 13th International CSI Computer Conference (CSICC’08), Kish Island, Persian Gulf, Iran, March 2008.
- C1. Kamyar Rafati, **Naeem Esfahani**, and Mohammad Ghodsi. “*Kinetic Data Structures for Routing Problem in Mobile Sensor Networks*”. The 12th International CSI Computer Conference (CSICC’07), Tehran, Iran, February 2007.

Articles Under Review:

- TAAS** U3. **Naeem Esfahani**, Eric Yuan, Kyle R. Canavera, and Sam Malek. “*Inferring Software Component Interaction Dependency for Adaptation Support*”. Submitted to ACM Transactions on Autonomous and Adaptive Systems (TAAS).

Articles Under Preparation:

- TSE** U2. **Naeem Esfahani** and Sam Malek. “*POISED: A Possibilistic Approach for Dealing with Uncertainty of Decision Making in Self-Adaptive Software Systems*”. To be submitted to IEEE Transactions on Software Engineering (TSE).

SEAMS U1. Alireza Sadeghi, **Naeem Esfahani**, and Sam Malek. “*Savasana: Ensuring the Consistency of Dynamic Adaptation through Source Code Analysis*”. To be submitted to the 10th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS 2015), Firenze, Italy, May 2015.

RESEARCH GRANTS (helped my advisor in writing the proposals)

“CAREER: A Mining-Based Approach for Consistent and Timely Adaptation

- **of Component-Based Software”**

National Science Foundation (NSF)

2/1/2013 - 1/31/2018

- Award Amount: \$451,481
- Award Number: CCF-1252644

“Mining the Execution History of a Software System to Infer the Best Time

- **for its Adaptation”**

National Science Foundation (NSF)

2/1/2012 - 1/31/2013

- Award Amount: \$80,000
- Award Number: CCF-1217503

HONORS & AWARDS

Outstanding Graduate Student Award, CS Department, Volgenau School of Engineering, GMU *2014*
Invited to attend Future of Software Engineering Symposium (including travel award) *July 2013*
George Mason University Doctoral Fellowship *Fall 2009, Spring 2010, Spring 2011*
ACM SIGSOFT CAPS (travel award to MODELS conference) *August 2009*
Top student of the class during B.Sc. study *2005*
University of Tehran FOE Awards (The top student in each year) *2002, 2003*

TEACHING EXPERIENCE

- **191004 - Advanced Operating System**

Tadbir Institute (Adjunct Professor)

Fall 2007

TEACHING ASSISTANTSHIPS

- **SWE 443 - Software Architectures**

George Mason University (Dr. Malek)

Spring 2013

- **40-474 - Software Engineering**

Sharif University of Technology (Dr. Mirian-Hosseiniabadi)

Spring 2007, Fall 2006

- **8101424 - Algorithm Design**

University of Tehran (Dr. Rostamabadi)

Fall 2004, Spring 2004

- **8101119 - Advanced Programming**

University of Tehran (Mr. Sheikh Attar)

Spring 2004

- **8101347 - Basics of Computer Programming**

University of Tehran (Dr. Taghiyareh)

Fall 2002

ADVISING EXPERIENCE (as a Ph.D. Candidate in George Mason University)

- **Alireza Sadeghi**
Ph.D. Student 2012 - 2014
- **Kaveh Razavi**
M.Sc. Student 2011 - 2014
- **Kyle R. Canavera**
Ph.D. Student 2011 - 2014

SERVICE

Reviewer for ACM Transactions on Software Engineering and Methodology *January 2015*
Reviewer for IEEE Transactions on Software Engineering *December 2014*
Reviewer for IEEE Transactions on Parallel and Distributed Systems *May 2014*
Reviewer for IEEE Transactions on Software Engineering *April 2014*
External reviewer for 36th Int'l Symp. on Soft. Eng. for Adapt. and Self-Managing Sys. . . *February 2014*
External reviewer for 36th Int'l Conf. on Software Engineering *November 2013*
Reviewer for IEEE Transactions on Software Engineering *November 2013*
Reviewer for Int'l Wrkshp. on Software Engineering for Sensor Network Applications . . . *February 2013*
Web chair of 4th Int'l ACM Sigsoft Symp. on Architecting Critical Systems *2012-2013*
Reviewer for Journal of Systems and Software *May 2012*
Reviewer for Int'l Wrkshp. on Developing Tools as Plug-ins *March 2012*
Reviewer for Journal of Software: Practice and Experience *August 2011*
Reviewer for Journal of Systems and Software *June 2011*
External reviewer for Brazilian Conf. on Software: Theory and Practice *May 2011*
Student Volunteer at 18th Int'l Symp. on Foundations of Software Engineering *November 2010*
Reviewer for ISeCure Journal *October 2010*
External reviewer for 33rd Int'l Conf. on Software Engineering *October 2010*
Reviewer for ISeCure Journal *June 2010*
Organizing seminar course, CE Dep., Sharif University of Technology *December 2006*
Chairman of ACM Student Chapter, ECE Dep., University of Tehran *2003-2004*
Managing freshman ECE students in a multi-day orientation camp *2002,2003,2004*
Representative of the class in the Student Education Council, ECE Dep., University of Tehran . *2002-2003*
Representative of the class in ACM Student Chapter, ECE Dep., University of Tehran *2001-2002*