

# Mahdi Eslamimehr

## Computer Scientist

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## Formerly Visiting Faculty

University of California, Los Angeles  
 Computer Science Department  
 Los Angeles, CA 90024  
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## EDUCATION

- **Ph.D. in Computer Science**, *University of California, Los Angeles* **Feb 2014**
- **M.S. in Computer Science**, *Linköping University, Linköping, Sweden* **Sep 2008**
- **B.S. in Computer Engineering**, *Sharif University of Technology, Tehran, Iran* **Sep 2006**

## EMPLOYMENT

- **Expert Witness and Consultant** **Aug 2015 – Present**  
*Quandary Peak Research, Los Angeles, CA*
  - Providing software analysis and expert witness testimony in software-related litigation, including patent infringement, software malfunctions, breach-of-contract suits, and other matters.
  - Performing forensic investigations of computer systems, including examining digital data, recovering lost and corrupted files, auditing digital records and logs, and analyzing document metadata.
  - Investigating software failures to determine the root cause and help clients understand whether and how the failure could have been avoided.
  - Applying advanced analytic techniques based on calibrated parametric models for valuation of software products and estimation of software development costs.
  - Documenting the architecture of software systems to identify structural similarities and differences among competing products and services and deduce the origin of software designs and code.
- **Visiting Faculty** **Jun 2014 – Jun 2015**  
*Computer Science Department, University of California, Los Angeles, CA*
  - Conducting software research in Compiler Lab in the area of testing and verification of concurrent, parallel, and web-based programs.
- **Postdoctoral Scholar** **Jul 2014 – Jul 2015**  
*SAP Labs / Viewpoints Research Institute*
  - Developed a new testing environment for JavaScript programs and web applications.
  - Implemented a web-based framework to improve human-computer interaction using natural language processing techniques.
  - Implemented an automatic behavior-driven testing technique for checking the correctness of web applications with natural language.
  - Implemented a new constraint-based declarative programming language for rapid web-based application prototyping.
  - Implemented a syntactically and semantically correct program generation tool with Parsing Expression Grammars for JavaScript applications.

- **Lecturer** **Sep 2013 – Jun 2014**  
*California State Polytechnic, Pomona*

  - Teaching graduate and undergraduate courses (Software Engineering and Object Oriented Design Patterns) in the Computer Science Department.
  - Teaching an undergraduate course (Industrial Computation) in the Department of Industrial and Manufacturing Engineering.
  
- **Graduate Fellow** **Sep 2008 – Feb 2014**  
*Computer Science Department, University of California, Los Angeles, CA*

  - Designed and implemented VICE, a testing tool for memory management and timing analysis of event-driven embedded systems.
  - Designed and implemented several testing tools to detect concurrency bugs in large-scale Java programs, including:
    - Racagedon: A tool to detect rare data races in multithreaded Java programs.
    - Sherlock: A tool to detect rare deadlocks in multithreaded Java programs.
    - AtomChase: A tool to detect rare atomicity violation in multithreaded Java programs.
  
- **Graduate Research Intern** **Jun 2013 – Sep 2013**  
*CNRS, VERIMAG, Grenoble, France.*

  - Designed and implemented a tool to estimate Worst Case Execution Time for microcontrollers.
  - Implemented a task scheduling system for processors with no timing anomaly.
  
- **Graduate Research Intern** **Jun 2010 – Sep 2010**  
*Samsung Electronics R&D Center, San Jose.*

  - Designed and implemented a scalable topology language for many-core processors, named Samsung PArallel Real Time Architecture (SPARTA). SPARTA is a set of tools and a run-time framework that enables superior performance of software through dynamic (adaptive) parallelization and system-wide coordination of processing, memory and I/O resources.
  - Designed and implemented Components Configuration Language (CCL) as subset of SPARTA. SPARTA's CCL is a domain-specific programming language that is used to rapidly generate source code for a component-based application.
  - Analyzed performance of distributed tasks on many-core architectures for Tiler processors.
  
- **Software Engineer** **Dec 2007 – May 2008**  
*Ericsson AB R&D, Stockholm, Sweden.*

  - Designed and implemented a model-based testing framework for Ericsson's applications.
  - Analyzed accuracy and performance of telecommunication testing tools.
  
- **Graduate Research Intern** **May 2007 – Jul 2007**  
*Conformiq Qtronic, Helsinki, Finland.*

  - Surveyed state-of-art model-based testing tools.
  - Developed prototype applications for Conformiq tools.
  
- **Software Intern** **Jun 2004 – Sep 2004**  
*United Nation World Food Program, Tehran, Iran.*

  - Designed and implemented an internal communication database.
  - Migrated legacy databases to SQL.

## LITIGATION CONSULTING

- **Trevera Solutions, Inc. v. Semtech Corporation** **Feb 2016 – Present**

  - Jurisdiction: Superior Court of California, County of Orange
  - Counsel: Tredway, Lumsdaine & Doyle, LLP
  - Nature of Suit: Trade Secret
  
- **Global Equity Management (SA) PTY. Ltd. v. alibaba.com, INC., Alibaba group holding Ltd.** **Jan 2016 – Present**

  - Jurisdiction: U.S. District Court for the Eastern District of Texas
  - Counsel: Ramey & Schwaller, LLP
  - Nature of Suit: Patent
  
- **Internap Corporation v. Noction, Inc.** **Dec 2015 – Mar 2016**

  - Jurisdiction: U.S. District Court for the Northern District of Georgia
  - Counsel: Warner Norcross & Judd LLP
  - Nature of Suit: Patent
  
- **Ericsson Inc. v. TCL Communication Technology Holdings, Ltd.** **Dec 2015 – Present**

  - Jurisdiction: U.S. Central District Court for the of California
  - Counsel: Sheppard Mullin Richter & Hampton LLP
  - Nature of Suit: Patent
  
- **Fitbit Inc. v. Jawbone Inc.** **Oct 2015 – Present**

  - Jurisdiction: U.S. District Court for the Northern District of California
  - Counsel: Gibson, Dunn & Crutcher LLP
  - Nature of Suit: Patent
  
- **T-Mobile USA, Inc. v. Huawei Device USA, Inc.** **Oct 2015 – Present**

  - Jurisdiction: U.S. District Court for the Western District of Washington
  - Counsel: Hueston Hennigan LLP
  - Nature of Suit: Trade Secrets
  
- **Tait Environmental Services Inc. v. Pro Technology Automation, Inc.** **Oct 2015 – Mar 2016**

  - Jurisdiction: Superior Court of California, County of Orange
  - Counsel: Pettibone & Associates
  - Nature of Suit: Trade Secrets
  
- **Nicole, Inc. v. B.L.K. International, Inc.** **Sep 2015 – Oct 2015**

  - Jurisdiction: U.S. District Court for the Central District of California
  - Counsel: Greenberg & Bass LLP
  - Nature of Suit: Copyright
  
- **Bryndon Fisher v. The United States of America** **Jul 2015 – Present**

  - Jurisdiction: Pre-Litigation
  - Counsel: Schubert Jonckheer & Kolbe LLP
  - Nature of Suit: Class Action

- **Chipp'd Ltd. v. Crush & Lovely LLC** **Jul 2015 – Aug 2015**
  - Jurisdiction: American Arbitration Association
  - Counsel: White and Williams LLP
  - Nature of Suit: Breach of Contract
  
- **Seymore Levine v. The Boeing Company** **Jul 2015 – Present**
  - Jurisdiction: U.S. District Court for the Central District of California
  - Counsel: Quinn Emanuel Urquhart & Sullivan LLP
  - Nature of Suit: Patent

#### CONFERENCE PAPERS

- O. Freiberg, J. Palsberg, M. Eslamimehr, **Retargetable Communication for Distributed Programs**. *In Proceedings of 12th International ACM SIGSOFT Conference on the Quality of Software Architectures (QoSA'16)*, 2016.
- M. Eslamimehr, G. Edwards, **End-to-End Cross-Language Test Case Generation for Web Applications**. *In Proceedings of the 9th ACM SIGMETRICS International Conference on Performance Evaluation Methodologies and Tools (ValueTools'15)*, 2015.
- M. Eslamimehr, M. Lesani, **AtomChase: Directed Search Towards Atomicity Violations**. *In Proceedings of the 26th IEEE International Symposium on Software Reliability Engineering (ISSRE'15)*, 2015. **(won the best paper award)**
- H. Samimi, A. Warth, M. Eslamimehr, A. Borning, **Constraints as a Design Pattern: from Sketchpad61 to Sketchpad14**. *In Proceedings of ACM SIGPLAN International Symposium on New ideas, New Paradigms, and Reflections on Programming & Software (Onward!'15)*, 2015.
- M. Eslamimehr, J. Palsberg, **Sherlock: Scalable Deadlock Detection for Concurrent Programs**. *In Proceedings of the 22nd ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE'14)*, 2014.
- M. Eslamimehr, J. Palsberg, **Race Directed Scheduling of Concurrent Programs**. *In Proceedings of the ACM SIGPLAN Annual Symposium on Principles and Practice of Parallel Programming (PPOPP'14)*, 2014.
- M. Eslamimehr, J. Palsberg, **Testing versus static analysis of maximum stack size**. *In Proceedings of the 37th IEEE International Conference on Computers, Software & Applications (COMPSAC'13)*, 2013.

#### WORKSHOP PAPERS

- Mahdi Eslamimehr, Hesam Samimi, **Timing Analysis of Event-Driven Programs with Directed Testing**, *In Proceedings of WCET'15, 15th International Workshop on Worst-Case Execution Time Analysis, satellite workshop of the 27th Euromicro Conference on Real-Time Systems (ECRTS 2015)*, 2015.

#### POSTERS AND DEMONSTRATIONS

- **Directed Scheduling of Concurrent Programs**, UCLA Tech Forum, Jan 2014.
- **Enhancing Components Configuration Language on SPARTA**, Samsung US R&D, San Jose, 2010.
- **Scalable Topology Language for Many-Core Processors**, Samsung US R&D, San Jose, 2010.

#### INVITED TALKS

- **Event-Based Directed Testing**, Howard Hughes Lab, Malibu, 2013.

- **Directed Testing: From FPGAs to Supercomputers**, Intel, Seattle, 2012.
- **Model Based Testing: State of Art**, Ericsson AB, Helsinki, Finland, 2008.

#### PATENT APPLICATIONS

- Patent Case No. UC-2014-323-1-LA. Serial No. 61/904,977, Mahdi Eslamimehr, Jens Palsberg, **Race Directed Scheduling of Concurrent Programs**, filed November 15, 2013.

#### HONORS AND AWARDS

- **Open Science Data Cloud PIRE National Science Foundation Scholarship**, 2013.
- **UCLA Graduate Division Fellowship**, 2009-2011.
- **Ranked 31st** among more than 1,000,000 applicants in the Iran's nationwide university entrance exam, 2001

#### TEACHING

- **Lecturer**, Software Engineering, Calpoly Pomona, Fall 2014.
- **Lecturer**, Object Oriented Design Pattern, Calpoly Pomona, Spring 2014, Winter 2014, Fall 2013.
- **Lecturer**, Industrial Computation, Calpoly Pomona, Spring 2014, Winter 2014, Fall 2013.
- **Teaching Assistant**, Java Applications, UCLA Math Department, Winter 2013.
- **Teaching Assistant**, Compiler Construction, UCLA Computer Science Department, Fall 2012, Fall 2011.
- **Teaching Assistant**, Introduction to Computer Science, UCLA Computer Science Department, Winter 2010.
- **Teaching Assistant**, Software Engineering, Linkoping Computer Science Department, Fall 2007.
- **Teaching Assistant**, Data Structure and Algorithm, Linkoping Computer Science Department, Fall 2007.
- **Teaching Assistant**, Human Computer Interaction, Linkoping Computer Science Department, Fall 2007.
- **Teaching Assistant**, Human Computer Interaction, Linkoping Computer Science Department, Fall 2007.
- **Teaching Assistant**, Theory of Machine and Languages, Sharif University Computer Engineering Department, Fall 2004.
- **Teaching Assistant**, Advanced Programming in C++, Sharif University Computer Engineering Department, Fall 2003.

#### RESEARCH COMMUNITY SERVICE

- Reviewer for the **Software: Practice and Experience (SPE)**, 2015.

- Reviewer for **IEEE Transactions on Software Engineering (TSE)**, 2015.
- Reviewer for the **5th International Conference on Computer and Communication Technology (ICCT)**, India, 2015.
- AEC Program Committee Member for the 42nd **ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL)**, 2015.
- AEC Program Committee Member for the 20th **ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPOPP)**, 2015.
- AEC Program Committee Member for the **ACM SIGPLAN Symposium on Code Generation and Optimization (CGO)**, 2015.
- AEC Program Committee Member for the 36<sup>th</sup> **ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)**, 2015.
- AEC Program Committee Member for the 28<sup>th</sup> **European Conference on Object Oriented Programming (ECOOP)**, 2014.
- AEC Program Committee Member for the **ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Language and Applications (OOPSLA)**, 2014.

#### PROFESSIONAL ASSOCIATIONS

- **Member**, IEEE Computer Society.