

Milos Gligoric

Assistant Professor
Electrical and Computer Engineering

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RESEARCH INTERESTS

Software engineering and formal methods with focus on improving software quality via software testing and software model checking

EDUCATION

- 2009–2015 **Ph.D. in Computer Science**, University of Illinois at Urbana-Champaign (UIUC). Advisor: Prof. Darko Marinov
- 2007–2009 **M.Sc. in Software Engineering**, School of Electrical Engineering, University of Belgrade, Serbia. Advisor: Prof. Dragan Bojic
- 2003–2007 **B.Sc. in Computer Science and Engineering**, School of Electrical Engineering, University of Belgrade, Serbia

PUBLICATIONS

Refereed Journal Articles

- TOSEM 2015 [32] **Milos Gligoric**, Alex Groce, Chaoqiang Zhang, Rohan Sharma, Mohammad Amin Alipour, and Darko Marinov: “*Guidelines for Coverage-Based Comparisons of Non-Adequate Test Suites*”. Transactions on Software Engineering and Methodology, 22(4):1–33, August 2015.
- STVR 2013 [31] **Milos Gligoric**, Vilas Jagannath, Qingzhou Luo, and Darko Marinov: “*Efficient Mutation Testing of Multithreaded Code*”. Software Testing, Verification and Reliability, 23(5):375–403, August 2013.

Refereed Conference Papers

- ICSE NIER 2017 [30] **Milos Gligoric**, Sarfraz Khurshid, Sasa Misailovic, and August Shi: “*Approximating Mutation Testing*”. International Conference on Software Engineering, New Ideas and Emerging Results, TO APPEAR, Buenos Aires, Argentina, May 2017.
- FASE 2017 [29] Ripon Saha and **Milos Gligoric**: “*Selective Bisection Debugging*”. Fundamental Approaches to Software Engineering, TO APPEAR, Uppsala, Sweden, April 2017.
- FSE 2016 [28] Ahmet Celik, Alex Knaust, Aleksandar Milicevic, and **Milos Gligoric**: “*Build System with Lazy Retrieval for Java Projects*”. Symposium on the Foundations of Software Engineering, pages 643–654, Seattle, USA, November 2016.
- ISSRE 2016 [27] Nima Dini, Allison Sullivan, **Milos Gligoric**, and Gregg Rothermel: “*The Effect of Test Suite Type on Regression Test Selection*”. International Symposium on Software Reliability Engineering, pages 47–58, Ottawa, Canada, October 2016.
- ISSTA 2015 [26] **Milos Gligoric**, Lamyaa Eloussi, and Darko Marinov: “*Practical Regression Test Selection with Dynamic File Dependencies*”. International Symposium in Software Testing and Analysis, pages 211–222, Baltimore, USA, July 2015. (This paper **won an ACM SIGSOFT Distinguished Paper Award**.)
- ICSE Demo 2015 [25] **Milos Gligoric**, Lamyaa Eloussi, and Darko Marinov: “*Ekstazi: Lightweight Test Selection*”. International Conference on Software Engineering, Demo Papers, pages 713–716, Florence, Italy, May 2015.
- FSE 2014 [24] August Shi, Alex Gyori, **Milos Gligoric**, Andrey Zaytsev, and Darko Marinov: “*Balancing Trade-offs in Test-suite Reduction*”. Symposium on the Foundations of Software Engineering, pages 246–256, Hong Kong, November 2014.

- OOPSLA 2014 [23] **Milos Gligoric**, Wolfram Schulte, Chandra Prasad, Danny van Velzen, Iman Narasamdya, and Benjamin Livshits: “*Automated Migration of Build Scripts using Dynamic Analysis and Search-Based Refactoring*”. Conference on Object-Oriented Programming, Systems, Languages, and Applications, pages 599–616, Portland, USA, October 2014.
- ASE 2014 [22] **Milos Gligoric**, Stas Negara, Owolabi Legunsen, and Darko Marinov: “*An Empirical Evaluation and Comparison of Manual and Automated Test Selection*”. International Conference on Automated Software Engineering, pages 361–372, Vasteras, Sweden, September 2014.
- CAV 2014 [21] **Milos Gligoric**, Rupak Majumdar, Rohan Sharma, Lamyaa Eloussi, and Darko Marinov: “*Regression Test Selection for Distributed Software Histories*”. International Conference on Computer Aided Verification, pages 293–309, Vienna, Austria, July 2014.
- ASE 2013 [20] Lingming Zhang, **Milos Gligoric**, Darko Marinov, and Sarfraz Khurshid: “*Operator-based and Random Mutant Selection: Better Together*”. International Conference on Automated Software Engineering, pages 92–102, Palo Alto, USA, November 2013.
- Onward! 2013 [19] Aleksandar Milicevic, **Milos Gligoric**, Darko Marinov, and Daniel Jackson: “*Model-Based, Event-Driven Programming Paradigm for Interactive Web Applications*”. SPLASH Onward!, pages 17–36, Indianapolis, USA, October 2013.
- ISSTA 2013 [18] **Milos Gligoric**, Alex Groce, Chaoqiang Zhang, Rohan Sharma, Mohammad Amin Alipour, and Darko Marinov: “*Comparing Non-Adequate Test Suites using Coverage Criteria*”. International Symposium in Software Testing and Analysis, pages 302–313, Lugano, Switzerland, July 2013. (This paper was **invited for journal submission**.)
- ISSTA 2013 [17] **Milos Gligoric**, Lingming Zhang, Cristiano Pereira, and Gilles Pokam: “*Selective Mutation Testing for Concurrent Code*”. International Symposium in Software Testing and Analysis, pages 224–234, Lugano, Switzerland, July 2013.
- ECOOP 2013 [16] **Milos Gligoric**, Farnaz Behrang, Yilong Li, Jeffrey Overbey, Munawar Hafiz, and Darko Marinov: “*Systematic Testing of Refactoring Engines on Real Software Projects*”. European Conference on Object-Oriented Programming, pages 629–653, Montpellier, France, July 2013.
- TACAS 2013 [15] **Milos Gligoric** and Rupak Majumdar: “*Model Checking Database Applications*”. International Conference on Tools and Algorithms for the Construction and Analysis of Systems, pages 549–564, Rome, Italy, March 2013.
- ICST 2012 [14] **Milos Gligoric**, Peter C. Mehltitz and Darko Marinov: “*X10X: Model Checking a New Programming Language with an ‘Old’ Model Checker*”. International Conference on Software Testing, Verification and Validation, pages 11–20, Montreal, Canada, April 2012. (This paper **was nominated for the Best Paper Award**.)
- ASE 2011 [13] Elton Alves, **Milos Gligoric**, Vilas Jagannath, Marcelo d’Amorim: “*Fault Localization Using Dynamic Slicing and Change-Impact Analysis*”. International Conference on Automated Software Engineering, short paper, pages 520–523, Lawrence, USA, November 2011.
- FSE 2011 [12] Vilas Jagannath, **Milos Gligoric**, Dongyun Jin, Qingzhou Luo, Grigore Rosu, Darko Marinov: “*Improved Multithreaded Unit Testing*”. Symposium on the Foundations of Software Engineering, pages 223–233, Szeged, Hungary, September 2011.
- FSE Demo 2011 [11] **Milos Gligoric**, Sandro Badame, Ralph Johnson: “*SMutant: A Tool for Type-Sensitive Mutation Testing in a Dynamic Language*”. Symposium on the Foundations of Software Engineering, formal tool demonstrations, pages 424–427, Szeged, Hungary, September 2011.
- ISSTA 2011 [10] **Milos Gligoric**, Darko Marinov, Sam Kamin: “*CoDeSe: Fast Deserialization via Code Generation*”. International Symposium in Software Testing and Analysis, pages 298–308, Toronto, Canada, July 2011.
- FASE 2011 [9] Rohan Sharma, **Milos Gligoric**, Andrea Arcuri, Gordon Fraser, Darko Marinov: “*Testing Container Classes: Random or Systematic?*”. Fundamental Approaches to Software Engineering, pages 262–277, Saarbrücken, Germany, March 2011.

- ICSE 2010 [8] **Milos Gligoric**, Tihomir Gvero, Vilas Jagannath, Sarfraz Khurshid, Viktor Kuncak, Darko Marinov: “*Test Generation through Programming in UDITA*”. International Conference on Software Engineering, pages 225–234, Cape Town, South Africa, May 2010. (This paper **won an ACM SIGSOFT Distinguished Paper Award**.)
- ICST 2010 [7] **Milos Gligoric**, Vilas Jagannath, Darko Marinov: “*MuTMuT: Efficient Exploration for Mutation Testing of Multithreaded Code*”. International Conference on Software Testing, Verification and Validation, pages 55–64, Paris, France, April 2010. (This paper was **invited for journal submission**.)
- ICST 2009 [6] **Milos Gligoric**, Tihomir Gvero, Steven Lauteburg, Darko Marinov, Sarfraz Khurshid: “*Optimizing Generation of Object Graphs in Java PathFinder*”. International Conference on Software Testing, Verification and Validation, pages 51–60, Denver, USA, April 2009.
- ICSE Demo 2008 [5] Tihomir Gvero, **Milos Gligoric**, Steven Lauterburg, Marcelo d’Amorim, Darko Marinov, Sarfraz Khurshid: “*State Extensions for Java PathFinder*”. International Conference on Software Engineering, Demo Papers, pages 863–866, Leipzig, Germany, May 2008.

Refereed Workshop Papers

- Scala 2011 [4] Samira Tasharofi, **Milos Gligoric**, Darko Marinov, and Ralph Johnson: “*Setac: A Framework for Phased Deterministic Testing of Scala Actor Programs*”. Scala Workshop, Stanford, USA, June 2011.
- IWMSE 2010 [3] Vilas Jagannath, **Milos Gligoric**, Dongyun Jin, Grigore Rosu, Darko Marinov: “*IMUnit: Improved Multithreaded Unit Testing*”. International Workshop on Multicore Software Engineering, pages 48–49, Cape Town, South Africa, May 2010.
- CSTVA 2010 [2] Rohan Sharma, **Milos Gligoric**, Vilas Jagannath, Darko Marinov: “*A Comparison of Constraint-based and Sequence-based Generation of Complex Input Data Structures*”. Workshop on Constraints in Software Testing, Verification and Analysis, pages 337–342, Paris, France, April 2010.
- Mutation 2010 [1] Vilas Jagannath, **Milos Gligoric**, Steven Lauterburg, Darko Marinov, Gul Agha: “*Mutation Operators for Actor Systems*”. International Workshop on Mutation Analysis, pages 157–162, Paris, France, April 2010.

SCHOLARSHIPS AND AWARDS

- 2017 “CAREER: Advancing Regression Testing: Theory and Practice”, NSF Faculty Early Career Development Program (CAREER) Grant, **\$502k**
- 2016 “CRII: SHF: Regression Testing for Projects with Distributed Software Histories”, NSF Computer Research Initiation Initiative (CRII) Grant, **\$175k**
- 2016 ACM SIGSOFT Outstanding Doctoral Dissertation Award
- 2016 David J. Kuck Outstanding Ph.D. Thesis Award, Department of Computer Science, UIUC
- 2015 “Multi-Language Regression Test Selection”, gift from Google Faculty Research Awards, **\$46k**
- 2015 “Opportunities to commercialize Ekstazi”, Special Research Grant Approval, Department of Electrical and Computer Engineering, UT, \$750
- 2015 ACM SIGSOFT Distinguished Paper Award for [26] (ISSTA 2015)
- 2014–2015 Mavis Future Faculty Fellowship (MF3), College of Engineering, UIUC
- 2014 C.W. Gear Outstanding Graduate Student Award for Excellence in Research and Service given to one senior PhD student per year, Department of Computer Science, UIUC
- 2012 C.L. & Jane W-S. Liu Award for Exceptional Research Promise given to one junior PhD student per year, Department of Computer Science, UIUC
- 2010 ACM SIGSOFT Distinguished Paper Award for [8] (ICSE 2010)
- 2010 ITI Student Travel Scholarship, Information Trust Institute, UIUC

2010	Conference Travel Grant, Graduate College, UIUC
2009–2010	Fellowship, Saburo Muroga Fellowship, Department of Computer Science, UIUC
2008	Conference Travel Funding, SIGSOFT CAPS
2006–2007	Scholarship, EFG Eurobank Student Excellence Scholarship, EFG Eurobank Greece
2005–2007	Scholarship, Government of the City of Belgrade
2004–2007	Scholarship, Government of the Republic of Serbia

COMMITTEE SERVICE (PC - program committee)

ASE-ERP 2017	Expert review panel, Conference on Automated Software Engineering
ISSTA Demo 2017	PC member, Symposium on Software Testing and Analysis, demo track
Onward! 2017	PC member, Conference on Systems, Programming, Languages and Applications: Software for Humanity, Onward!
ASE 2017	Tutorials co-chair , Conference on Automated Software Engineering
ISSTA 2017	PC member, Symposium on Software Testing and Analysis
ICSE NIER 2017	PC member, Conference on Software Engineering, new idea track
FASE 2017	PC member, Conference on Fundamental Approaches to Software Engineering
Mutation 2017	PC member, Workshop on Mutation Analysis
ISSTA Demo 2016	PC member, Symposium on Software Testing and Analysis, demo track
Onward! 2016	PC member, Conference on Systems, Programming, Languages and Applications: Software for Humanity, Onward!
FSE-SRC 2016	PC member, Symposium on the Foundations of Software Engineering, student competition
FSE-VaR 2016	PC member, Symposium on the Foundations of Software Engineering, visions and reflections
ASE-ERP 2016	Expert review panel, Conference on Automated Software Engineering
Mutation 2016	PC member, Workshop on Mutation Analysis
ISSTA-AE 2016	Artifact evaluation committee member, Symposium on Software Testing and Analysis
ICST 2016	PC member, Conference on Software Testing, Verification and Validation
ICSE Demo 2016	PC member, Conference on Software Engineering, demo track
JPF 2016	Co-chair , Java PathFinder Workshop
FASE 2016	PC member, Conference on Fundamental Approaches to Software Engineering
JPF 2015	PC member, Java PathFinder Workshop
ASE Demo 2015	PC member, Conference on Automated Software Engineering, demo track
RV 2015	PC member, Conference on Runtime Verification
RV Demo 2015	PC member, Conference on Runtime Verification, demo track
ISSTA 2015	Session chair, Symposium on Software Testing and Analysis
ISSTA-AE 2015	Artifact evaluation co-chair , Symposium on Software Testing and Analysis
Mutation 2015	PC member, Workshop on Mutation Analysis
ISSTA-AE 2014	Artifact evaluation co-chair , Symposium on Software Testing and Analysis
ISSTA 2014	Session chair, Symposium on Software Testing and Analysis
ISSTA 2014	Helped organize the PC meeting, Symposium on Software Testing and Analysis
Mutation 2014	Session chair, Workshop on Mutation Analysis
OOPSLA 2013	Artifact evaluation committee member, Conference on Object-Oriented Programming, Systems, Languages, and Applications
CSTVA 2013	PC member, Workshop on Constraints in Software Testing Verification and Analysis

PROFESSIONAL ACTIVITIES

NSF Panel 2016	Proposal Review Panelist, National Science Foundation
Senior Design Mentor	Senior Design Mentor at UT, 2016/2017 – mentoring six senior undergraduate students working on a year-long research project
SRC Judge	Judge for the Student Research Competition at FSE 2016
External Reviewer	TACAS 2017, ICSE 2017, FORM 2016, EMSE 2016, TSE 2016 ($\times 2$), SQJO 2015, FORM 2015, CAV 2015, ASE 2014, JSS 2014, TSE 2014 ($\times 2$), ICSE 2014, ICST 2014, TOSEM 2013, TSE 2013, OOPSLA 2013, ISSTA 2013, CAV 2013, IPDPS 2013, HotNets 2012, RV 2012, ASE 2011, WODA 2011, SPIN 2011, ICSE 2011, SP&E 2010, ASE 2010, ISSTA 2010, MBT 2010, ABZ 2010, ASE 2009, ASE 2008, ICST Student Track 2008, ASE 2007
Workbook	Co-authored a workbook on expert systems by Dragan Bojic, Milos Gligoric, and Bosko Nikolic (published in Serbian by Akademska Misao, Belgrade, Serbia in 2009)
Book Reviewer	Commented on a manuscript of the book “Concurrent and Distributed Programming” by Zaharije Radivojevic, Igor Ikodinovic, and Zoran Jovanovic (published in Serbian by Akademska Misao, Belgrade, Serbia in 2008)
Advisory Council	Military and Veterans Advisory Council at UT, 2015-present
FAA Grad Student	Fellowships, Assistantships, and Admissions (FAA) Grad Student Volunteer at UIUC, reviewed Summer and Fall 2014 applicants for PhD and MS
Steering Committee	College Teaching Effectiveness Network (CTEN), 2013/2014
PhD Mentor	Grad Student Mentor at UIUC, 2012/2013 – mentored progress of three junior PhD students
PhD Ambassador	Grad Student Ambassador at UIUC, 2010/2011 and 2011/2012 – communicated with several dozens of prospective PhD students
Student Volunteer	ICSE 2008 and SPLASH 2014
Panelist	Inspirations at SPLASH 2014 – gave an overview of my research to undergraduate and junior grad students

PROFESSIONAL EXPERIENCE

2013 May–Sep	Internship , Microsoft (MS) and Microsoft Research (MSR), Redmond. Worked with Wolfram Schulte, Chandra Prasad, and Ben Livshits on cloud-based build system and automated migration from the existing build systems to the new build system [23]
2012 May–Jul	Internship , Max Planck Institute (MPI), Germany. Worked with Rupak Majumdar on model checking database applications [15]
2011 Aug–Dec	Internship , Intel, Santa Clara. Worked with Cristiano Pereira and Gilles Pokam on mutation testing for concurrent Java and C/C++ code [17]
2010 Jun–Aug	Off-Campus internship , National Aeronautics and Space Administration (NASA). Worked with Peter Mehltz and Darko Marinov on model checking X10 programs [14]
2008 Jul–Sep	Research visitor , Swiss Federal Institute of Technology (EPFL), School of Computer and Communication Sciences. Worked with Viktor Kuncak on symbolic execution and model checking of Java programs [8]
2007 Jul–Oct	Visiting scholar , Information Trust Institute (ITI), University of Illinois at Urbana-Champaign (UIUC). Worked with Darko Marinov on automated test generation and model checking Java programs [5]

TEACHING EXPERIENCE

Spring 2017	Instructor , University of Texas at Austin. Course taught: Software Design and Implementation I (EE 312)
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Fall 2016	Instructor , University of Texas at Austin. Course taught: Software Evolution (EE 382V)
Fall 2015	Instructor , University of Texas at Austin. Course taught: Software Evolution (EE 382V)
2015–present	Seminar organizer , University of Texas at Austin. Software Engineering Seminar
2009–2015	Supervisor , University of Illinois at Urbana-Champaign. Supervised 18 undergraduate, masters, and junior PhD students while at UIUC
Fall 2014	Teaching assistant , University of Illinois at Urbana-Champaign. Course taught: Topics in Software Engineering
2013	Project mentor , University of Illinois at Urbana-Champaign. CS527: Topics in Software Engineering, Prof. Tao Xie
2012	Graduate seminar co-organizer , University of Illinois at Urbana-Champaign. CS591: Software Engineering Seminar
2012	Project mentor , University of Illinois at Urbana-Champaign. CS498: Multicore Parallel Programming with Java, Prof. Danny Dig
2007–2009	Teaching assistant , School of Electrical Engineering, University of Belgrade. Courses taught: Introduction to Compilers, Expert Systems, Introduction to Programming, Principles of Software Engineering and Software Testing
2008–2009	Guest lecturer , Information Technology School (ITS), Belgrade. Course taught: Object-Oriented Programming
2007	Guest lecturer , (two-year) College of Electrical Engineering, Belgrade. Course taught: Internet Programming
2004–2006	Lab assistant , School of Electrical Engineering, University of Belgrade. Courses taught: Introduction to Programming, Algorithms and Data Structures, and Object-Oriented Programming

PRESENTATIONS

10/16	<i>Practical Regression Test Selection with Dynamic File Dependencies</i> , at ISSRE, Ottawa, Ontario, Canada
10/16	<i>Build System with Lazy Retrieval for Java Projects</i> , Texas State, San Marcos, TX, USA
08/16	<i>Build System with Lazy Retrieval for Java Projects</i> , CMU, Pittsburgh, PA, USA
08/16	<i>Build System with Lazy Retrieval for Java Projects</i> , UIUC, Urbana, IL, USA
02/16	<i>Improving Software Quality</i> , University of Pennsylvania, Philadelphia, PA, USA
07/15	[26] at ISSTA 2015, Baltimore, MD, USA
07/15	[26] at Columbia University, New York, NY, USA
05/15	[25] at ICSE Demo 2015, Florence, Italy
04/15	<i>Regression Testing: Theory and Practice</i> , University of Toronto, Toronto, Canada
04/15	<i>Regression Testing: Theory and Practice</i> , UCSD, San Diego, CA, USA
04/15	<i>Regression Testing: Theory and Practice</i> , UMass, Amherst, MA, USA
03/15	<i>Regression Testing: Theory and Practice</i> , VirginiaTech, Blacksburg, VA, USA
03/15	<i>Regression Testing: Theory and Practice</i> , ETH, Zurich, Switzerland
03/15	<i>Regression Testing: Theory and Practice</i> , UCI, Irvine, CA, USA
03/15	<i>Regression Testing: Theory and Practice</i> , UT Dallas, Richardson, TX, USA
02/15	<i>Regression Testing: Theory and Practice</i> , UT Austin, Austin, TX, USA
02/15	<i>Regression Testing: Theory and Practice</i> , GeorgiaTech, Atlanta, GA, USA
02/15	<i>Regression Testing: Theory and Practice</i> , NCSU, Raleigh, NC, USA
02/15	<i>Regression Testing: Theory and Practice</i> , UIC, Chicago, IL, USA
02/15	<i>Regression Testing: Theory and Practice</i> , Purdue, West Lafayette, IN, USA

01/15 *Regression Testing at the Speed of Light*, guest lecture in CS498DM: Software Testing, UIUC, Urbana, IL, USA

12/14 *A New Start for Regression Testing*, Microsoft Research, Redmond, WA, USA

12/14 *A New Start for Regression Testing*, University of Pennsylvania, Philadelphia, PA, USA

12/14 *A New Start for Regression Testing*, Drexel University, Philadelphia, PA, USA

11/14 *A New Start for Regression Testing*, Shanghai Jiao Tong University, Shanghai, China

10/14 [23] at Oregon State University, Corvallis, OR, USA

10/14 [21] at Oregon State University, Corvallis, OR, USA

10/14 [23] at SPLASH 2014, Portland, OR, USA

10/14 [23] at SPLASH 2014, Portland, OR, USA (poster presentation)

10/14 [23] at Purdue University, West Lafayette, IN, USA

10/14 *Refactorings Demo*, guest lecture in CS427: Software Engineering I, UIUC, Urbana, IL, USA

09/14 *Regression Testing*, guest lecture in CS427: Software Engineering I, UIUC, Urbana, IL, USA

07/14 [21] at CAV 2014, Vienna, Austria

07/14 [21] at University of Belgrade, Belgrade, Serbia

07/14 [21] at Max Planck Institute for Software Systems, Kaiserslautern, Germany

10/13 [19] at SPLASH 2013, Indianapolis, IN, USA (poster presentation)

09/13 *Metamorphosis: Automatic Migration and Refactoring of Build Scripts*, Microsoft, Redmond, WA, USA

04/13 *Model Checking Database Applications*, I2PC seminar, UIUC, Urbana, IL, USA

03/13 [15] at TACAS 2013, Rome, Italy

03/13 *Synthesis of Interactive, Cloud-Based Heterogeneous Software Systems*, Qualcomm Research Center, NJ, USA

02/13 *Test Repair, Improved Fault Localization, and Failure Prediction*, Seminar 13061 “Fault Prediction, Localization, and Repair”, Dagstuhl, Germany

11/12 *Test Generation*, The University of Texas at Austin, Austin, TX, USA

10/12 *CoDeSe*, guest lecture in CS498DD: Introduction to Parallelism, UIUC, Urbana, IL, USA

06/12 *Java PathFinder*, Kaiserslautern University of Technology, Kaiserslautern, Germany

05/12 *IMUnit: Improved Multithreaded Unit Testing*, Kaiserslautern University of Technology, Kaiserslautern, Germany

04/12 *UDITA*, guest lecture at CS498DM: Software Testing, UIUC, Urbana, IL, USA

01/12 *Java PathFinder*, guest lecture at CS498DM: Software Testing, UIUC, Urbana, IL, USA

12/11 *Mutation Testing for Concurrent Code*, Intel, Santa Clara, CA, USA

12/11 *IMUnit: Improved Multithreaded Unit Testing*, NASA Ames, Moffett Field, CA, USA

03/11 [9] at FASE 2011, Saarbrücken, Germany

03/11 *Testing Container Classes: Random or Systematic?*, ETF, Belgrade, Serbia

03/11 *Test Generation through Programming in UDITA*, ETF, Belgrade, Serbia

03/11 *X10X: Systematic Testing of X10 Applications*, IBM, Hawthorne, NY, USA

02/11 *Test Generation through Programming in UDITA*, Google, New York, NY, USA

07/10 *Test Generation through Programming in UDITA*, MIT, Cambridge, MA, USA

05/10 [8] at ICSE 2010, Cape Town, South Africa

04/10 [2] at CSTVA 2010, Paris, France

05/08 [5] at ICSE 2008, Leipzig, Germany (poster presentation)

OPEN SOURCE CONTRIBUTIONS

- 2014 **Ekstazi**, lightweight and scalable Java library for regression test selection - <http://ekstazi.org> (papers [21, 25, 26])
- 2013 **CoCo**, tool for measuring coverage (statement, branch, intra-method path, acyclic intra-method path, predicate) - <http://mir.cs.illinois.edu/coco> (paper [18])
- 2011 **Javalanche extension**, extension of the mutation testing tool with some mutation operators for concurrent code - <https://github.com/david-schuler/javalanche> (paper [31])
- 2011 **IMUnit**, framework for writing and executing multithreaded unit tests in Java - <http://mir.cs.illinois.edu/imunit> (paper [12])
- 2011 **SMutant**, mutation testing tool for Smalltalk - <http://www.squeaksource.com/smutant.html> (paper [11])
- 2011 **CoDeSe dataset**, used to evaluate CoDeSe that employs a new format based on code to improve serialization/deserialization - <http://mir.cs.illinois.edu/codese> (paper [10])
- 2011 **Setac**, testing framework for Scala actor programs that allows specifying constraints on schedules - <http://mir.cs.illinois.edu/setac> (paper [4])
- 2011 **Container Classes**, collection of container classes with instrumentation for predicate coverage - <http://mir.cs.illinois.edu/coverage> (paper [9])
- 2010 **UDITA**, language that combines expressive strengths of filtering and generating test abstractions to create more expressive test generation programs - <http://mir.cs.illinois.edu/udita> (paper [8])
- 2010 **Delayed extension**, postpones non-deterministic choice of values until they are used, reducing the size of the state space in explicit-state model checking. Contributed to Java PathFinder (JPF) model checker, the first open-source software from NASA - <http://babelfish.arc.nasa.gov/trac/jpf/wiki/projects/jpf-delayed> (paper [8])
- 2008–present **Numerous bug fixes and enhancements for Java PathFinder** - <http://mir.cs.illinois.edu/jpf>
- 2007 **Untracked state extension**, provides new functionality for storing and restoring JPF state during model checking. The code was committed to the JPF core - http://javapathfinder.svn.sourceforge.net/viewvc/*checkout*/javapathfinder/trunk/doc/Untracked.html (paper [5])