

# Alex Gyori

---

**Thomas M. Siebel**  
**Center for Computer Science**  
Department of Computer Science  
University of Illinois at Urbana Champaign  
201 N Goodwin Ave, Urbana, IL, 61801

*office:* Siebel Center 4217  
*e-mail:* gyori@illinois.edu  
*www:* <http://mir.cs.illinois.edu/gyori>

## EDUCATION

*PhD*, Computer Science  
University of Illinois at Urbana Champaign, Urbana, IL, USA 2013 - 2017 (expected)

*BSc*, Computer Science  
Polytechnic University of Timisoara, Timisoara, Romania 2009 - 2013

## RESEARCH INTERESTS

*Software Engineering, Formal Methods, Programming Languages:* Software Testing, Software Verification, Software Evolution, and Program Transformations

## EXPERIENCE

University of Illinois at Urbana Champaign  
Urbana, IL, USA August 2013 to present  
*Research Assistant*

*Advisor:* Darko Marinov  
*Topic:* Software Testing, Regression Testing, Test Reliability

Microsoft Research  
Redmond, WA, USA May 2015 to August 2015  
*Research Intern*

*Advisor:* Shuvendu Lahiri  
*Topic:* Semantic-based Change-Impact Analysis using Differential Program Verification

Google Inc.  
Mountain View, CA, USA May 2014 to August 2014  
*Software Engineering Intern*

*Advisor:* Chang-Seo Park  
*Topic:* Implementing static analysis infrastructure for interprocedural CFA-style analysis to detect API misusages.

University of Illinois at Urbana Champaign  
Urbana, IL, USA June 2012 to August 2012  
*Undergraduate Research Intern*

*Advisor:* Danny Dig  
*Topic:* Designing automated refactoring to upgrade to functional APIs

Institute E-Austria  
Timisoara, Romania October 2011 - May 2012 and November 2012 - July 2013  
*Undergraduate Research Assistant*

*Advisor:* Marius Minea  
*Topic:* Applying formal techniques (model checking/smt) to web security

Continental AG  
Timisoara, Romania June 2010 - September 2010 and June 2011 - September 2011  
*Software Engineering Intern*

*Advisor:* Dan Onica  
*Topic:* Developing build and test automation in Eclipse and Rational Rhapsody

## PUBLICATIONS

1. **A. Gyori**, S. K. Lahiri, and N. Partush. Refining interprocedural change-impact analysis using equivalence relations. In *Proceedings of the 2015 International Symposium on Software Testing and Analysis, ISSTA 2017*, pages 318–328. Acceptance Rate: 31/118 – 26%, 2017
2. **A. Gyori**, P. Garg, E. Pek, and P. Madhusudan. Efficient incrementalized runtime checking of linear measures on lists. In *Proceedings of the IEEE International Conference on Software Testing, Verification and Validation, ICST 2017*, pages to–appear. Acceptance Rate: 36/135 – 26%, 2017. This paper was **nominated for the best paper award**
3. **A. Gyori**, B. Lambeth, S. Khurshid, and D. Marinov. Exploring underdetermined specifications using Java PathFinder. In *Proceedings of the Java Pathfinder Workshop 2016, JPF Workshop 2016*, pages 1–5, 2016
4. **A. Gyori**, B. Lambeth, A. Shi, O. Legunsen, and D. Marinov. NonDex: A tool for detecting and debugging wrong assumptions on Java API specifications. In *Proceedings of the 24th ACM SIGSOFT International Symposium on the Foundations of Software Engineering, Demo Papers, FSE Demo 2016*, pages 993–997. Acceptance Rate: 13/32 – 41%, 2016
5. A. Shi, **A. Gyori**, O. Legunsen, and D. Marinov. Detecting assumptions on deterministic implementations of non-deterministic specifications. In *Proceedings of the IEEE International Conference on Software Testing, Verification and Validation, ICST 2016*, pages 80–90. Acceptance Rate: 74/291 – 25%, 2016
6. A. Shi, T. Yung, **A. Gyori**, and D. Marinov. Comparing and combining test-suite reduction and regression test selection. In *Proceedings of the 2015 10th Joint Meeting on Foundations of Software Engineering, ESEC/FSE 2015*, pages 237–247. Acceptance Rate: 74/291 – 25%, 2015
7. **A. Gyori**, A. Shi, F. Hariri, and D. Marinov. Reliable testing: Detecting state-polluting tests to prevent test dependency. In *Proceedings of the 2015 International Symposium on Software Testing and Analysis, ISSTA 2015*, pages 223–233. Acceptance Rate: 33/119 – 27%, 2015
8. A. Shi, **A. Gyori**, M. Gligoric, A. Zaytsev, and D. Marinov. Balancing trade-offs in test-suite reduction. In *Proceedings of the 22nd ACM SIGSOFT International Symposium on Foundations of Software Engineering, FSE 2014*, pages 246–256. Acceptance Rate: 61/273 – 22%, 2014
9. **A. Gyori**, L. Franklin, D. Dig, and J. Lahoda. Crossing the gap from imperative to functional programming through refactoring. In *Proceedings of the 2013 9th Joint Meeting on Foundations of Software Engineering, ESEC/FSE 2013*, pages 543–553. Acceptance Rate: 51/251 – 20%, 2013
10. L. Franklin, **A. Gyori**, J. Lahoda, and D. Dig. Lambdaficator: from imperative to functional programming through automated refactoring. In *Proceedings of the 2013 International Conference on Software Engineering, ICSE Tool Demo 2013*, pages 1287–1290. Acceptance Rate: 16/53 – 30%, 2013

## TEACHING EXPERIENCE

- Teaching Assistant, *University of Illinois at Urbana Champaign* Fall 2016  
- CS527 Advanced Topics in Software Engineering
- Grad Seminar Organizer, *University of Illinois at Urbana Champaign* Fall 2014 and Spring 2016  
- CS591 Software Engineering Seminar
- Teaching Assistant, *Polytechnic University of Timisoara* Fall 2012 and Spring 2013  
- Senior level Cloud Computing Course
- Guest Lecturer, *National College C. D. Loga* Fall 2011 and Spring 2012  
- Elective course in algorithm for high school students. Full responsibility for curriculum and lectures.

## AWARDS AND HONORS

- NSF Helped prepare Grant on IoT Safety and Security – \$800K – *June 2016*
- NSF Helped prepare REU Supplement Grant – \$12K – *June 2016*
- Saburo Muroga Endowed Fellowship – \$6K – *2014-2015*
- General Electric Foundation Scholar Leader Award – \$4K – *2010-2012*
- NSF Conference Travel Funding ISSTA’15 – \$1K – *July 2015*
- Travel Grant to Training And Research On Testing (TAROT) 2014 Summer School – \$1K – *July 2014*
- ACM SIGSOFT CAPS Undergraduate Conference Travel Funding ICSE’13 – \$1K – *May 2013*
- 2013 SAT/SMT Summer School travel grant – \$1K – *July 2013*
- NSF Conference Travel Funding JPF’16 – \$500 – *November 2016*
- Academic Scholarship awarded by Polytechnic University of Timisoara – *2009 to 2013*
- First prize at ACI Software Testing Challenge organized by ACI – *March 2013*
- First prize at Océ Software Development Contest organized by Océ, a Canon company – *February 2013*
- 2012 ARiSE/VCLA Winter School on Verification travel grant – *February 2012*
- National Finalist at Imagine Cup a worldwide competition sponsored and organized by Microsoft – *2012*
- Merit Diploma at regional programming competition – *2010, 2011, 2013*
- National Finalist at ACM-ICPC – *2010, 2011, 2013*
- 3rd place at iTec software development competition a 48 hours hackathon – *2011*
- National Debate Champion and numerous 1st to 3rd prizes at National level – *2007 to 2010*

## SERVICE - VOLUNTEERING - LEADERSHIP

<b>TECPS 2017</b> Session Chair at Workshop on Testing for Cyber Physical Systems	July 2017
<b>ICST 2017</b> Student Volunteer	March 2017
<b>UIUC</b> CS Admissions Committee: Reviewer for Graduate Student Applications	2016—2017 cycle
<b>Security and Privacy Forum 2016</b> Student Volunteer	October 2016
<b>POPL 2016</b> Student Volunteer	January 2016
<b>UIUC</b> CS Graduate Ambassador	2015—2017
<b>UIUC</b> PL-FM-SE Area Retreat Organizer	2015
<b>UIUC</b> Research Mentor for Undergraduates in Science and Engineering	2015
<b>ESEC/FSE 2015</b> Student Volunteer	September 2015
<b>MS</b> Microsoft Student Partner	2010—2013
<b>ARDOR</b> Training Director in the Romanian Regional Debate Organization	2009—2011

## SERVICE – REVIEWING

<b>ASE’17</b> <i>The 32nd IEEE/ACM International Conference on Automated Software Engineering Programming’17 International Conference on the Art, Science, and Engineering of Programming</i>	2017
<b>TACAS’17</b> <i>International Conference on Tools and Algorithms for the Construction and Analysis of Systems</i>	2016
<b>ASE’16</b> <i>The 31st IEEE/ACM International Conference on Automated Software Engineering</i>	2016
<b>ICST’16</b> <i>The IEEE International Conference on Software Testing and Verification</i>	2016
<b>ASE’15</b> <i>The 30th IEEE/ACM International Conference on Automated Software Engineering</i>	2015
<b>CAV’15</b> <i>The International Conference on Computer Aided Verification</i>	2015
<b>CLSS</b> <i>Elsevier Computer Languages, Systems &amp; Structures</i>	2015
<b>HVC’14</b> <i>Tenth Haifa Verification Conference</i>	2014
<b>JSS</b> <i>Elsevier Journal of Systems and Software</i>	2014
<b>PLOS ONE</b> <i>Plos One Computer and Information Sciences Journal</i>	2014
<b>ASE’14</b> <i>The 29th IEEE/ACM International Conference on Automated Software Engineering</i>	2014
<b>ICST’14</b> <i>The IEEE International Conference on Software Testing, Verification and Validation</i>	2014
<b>ASE’13</b> <i>The 28th IEEE/ACM International Conference on Automated Software Engineering</i>	2013

## TALKS

- TECPS'17** Support for Security and Safety of Programmable IoT Systems ~  
Santa Barbara, CA, July 2017
- ISSTA'17** Refining Interprocedural Change-Impact Analysis using Equivalence Relations ~  
Santa Barbara, CA, July 2017
- ICST '17** Efficient incrementalized runtime checking of linear measures on lists ~  
Tokyo, Japan, March 2017
- FSE '16** NonDex: A tool for detecting and debugging wrong assumptions on Java API specifications ~  
Seattle, WA, November 2016
- JPF '16** Exploring Underdetermined Specifications using Java PathFinder ~Seattle, WA, November 2016
- George Mason** Assessing Forward Compatibility in Practice ~Washington, DC, October 2016
- Salesforce** Reliable Testing: A principled approach to detecting flaky tests ~  
San Francisco, CA, March 2016
- Google** Reliable Testing: A principled approach to detecting flaky tests ~  
Mountain View, CA, March 2016
- Qualcomm** Towards a Safer IoE: Detecting and Correcting Abnormal Interactions between Things in Smart Homes ~San Diego, CA, March 2016
- Microsoft** Reliable Testing: Detecting State-Polluting Tests to Prevent Test Dependency ~  
Redmond, WA, August 2015
- ISSTA'15** Reliable Testing: Detecting State-Polluting Tests to Prevent Test Dependency ~  
Baltimore, MD, July 2015
- Columbia University** Reliable Testing: Detecting State-Polluting Tests to Prevent Test Dependency ~  
New York, NY, July 2015
- Microsoft Research** Reliable Testing: Detecting State-Polluting Tests to Prevent Test Dependency ~  
Redmond, WA, July 2015
- Polytechnic University of Timisoara** Applying for PhD Studies in the US ~  
Timisoara, Romania, April 2015
- University of Oxford** Abstraction-guided Runtime Checking of Assertions on Lists ~  
Oxford, UK, March 2015
- Imperial College London** Abstraction-guided Runtime Checking of Assertions on Lists ~  
London, UK, March 2015
- University College London** Evaluating Test-Suite Reduction for Evolution ~London, UK, March 2015
- University of Illinois at Urbana Champaign** Test Suite Reduction – *Guest Lecture in CS527* ~  
Urbana, IL, November 2015
- Training And Research On Testing (TAROT) 2014 Summer School** Balancing Trade-Offs in Test-Suite Reduction ~Porto, Portugal, July 2014
- University of Illinois at Urbana Champaign – ISSTA-PC Meeting Workshop** Test Suite Reduction – *ISSTA PC Workshop* ~Urbana, IL, March 2014
- Illinois Symposium on Parallelism – I2PC'13** LambdaFicator: Crossing the Gap from Imperative to Functional Programming through Refactoring ~Urbana, IL, September 2013
- ESEC/FSE'13** Crossing the gap from imperative to functional programming through refactoring ~  
Saint Petersburg, Russia, August 2013
- ICSE'13** LAMBDAFICATOR: from imperative to functional programming through automated refactoring ~San Francisco, CA, May 2013

## HOBBIES

I enjoy biking, rock-climbing, and running (I ran a half marathon and now train to run the full). I always have fun roller skating or ice skating in the winter. When I am not working late, I enjoy ballroom dancing (and as of more recently tango) in the evenings. I enjoy playing a friendly soccer or basketball match outdoors. I spend my holidays in the wild - camping, hiking, and swimming or relaxing by a bonfire in the evening. I enjoy traveling, reading, and learning new things.