

## Mark Grechanik, Ph.D.

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CONTACT INFORMATION	University of Illinois 851 S. Morgan, Ofc SEO 1100 Chicago, IL 60607 USA	Voice: (512) 736-6275 E-mail: <a href="mailto:drmark@uic.edu">drmark@uic.edu</a> WWW: <a href="http://www.cs.uic.edu/~drmark">http://www.cs.uic.edu/~drmark</a>
CITIZENSHIP	USA	
RESEARCH INTERESTS	Software engineering in general, with particular interests in software testing, evolution, and reuse. I am also interested in problems that lie at the intersection of software engineering and data privacy. I have a unique blend of strong academic background and long-term industry experience.	
EDUCATION	<b>The University of Texas at Austin</b> , Austin, TX USA Ph.D., Department of Computer Sciences, 2006 <ul style="list-style-type: none"><li>• Thesis: Design and Analysis of Interoperating Components</li><li>• Advisors: Prof. Don Batory and Prof. Dewayne E. Perry</li><li>• Committee: Profs. Kathryn McKinley (UT), William R. Cook (UT), David Garlan (CMU), Karl J. Lieberherr (Northeastern U.).</li></ul> <b>The University of Texas at San Antonio</b> , San Antonio, TX USA M.Sc., Department of Computer Science, 1998 <b>National Technical University of Ukraine</b> , Ukraine, USSR Diploma in Electrical Engineering, Department of Electronic Systems, 1991	
GRANTS, HONORS, AWARDS	<b>PI for NSF Grant CCF-1017633.</b> Preserving Test Coverage While Achieving Data Anonymity for Database-Centric Applications. Collaborative grant for \$500,000, my portion is \$250,000. Dates: 2010-2013. <b>PI for NSF Grant CCF-0916139.</b> Creating and Evolving Software via Searching, Selecting and Synthesizing Relevant Source Code. Collaborative grant for \$300,000, my portion is \$150,000. Dates: 2009-2012. <b>Best Paper Award.</b> Mark Grechanik, Christoph Csallner, Chen Fu, and Qing Xie. “Is Data Privacy Always Good For Software Testing?” <i>IEEE International Symposium on Software Reliability Engineering (ISSRE’10)</i> , San Jose, CA, November 1-4, 2010. Acceptance rate: 31%. <b>Best Paper Award.</b> Chen Fu, Mark Grechanik, and Qing Xie. “Inferring Types Of References To GUI Objects In Test Scripts,” <i>International Conference on Software Testing Verification and Validation (ICST)</i> , Denver, CO, April 2009. Acceptance rate 29%. <b>Travel Award.</b> UT Department of Computer Sciences, Spring 2004.	

## CURRENT POSITIONS

**Research Manager since 2006.** Accenture Technology Labs, Chicago, IL.

**Adjunct Professor since 2008.** Department of Computer Science, University of Illinois at Chicago, Chicago, IL.

**Adjunct Professor since 2011.** Department of Computer Science, Northwestern University, Chicago, IL.

**Member since 2009.** ACM SigSoft Executive Committee.

## PUBLICATIONS

**Top Tier Conference Full Research Papers: ICSE(6), FSE(2), ASE(1)**

### Refereed Journal Publications

J1. Collin McMillan, Mark Grechanik, Denys Poshyvanyk, Chen Fu, and Qing Xie. Exemplar: A Source Code Search Engine For Finding Highly Relevant Applications. *IEEE Transactions of Software Engineering (TSE)*, IEEE Computer Society DOI 10.1109/TSE.2011.84, 10 Aug. 2011.

### Refereed Conference Full Research Papers

C1. Mark Grechanik, Chen Fu, and Qing Xie. Automatically Finding Performance Problems With Feedback-Directed Learning Software Testing. *34th International Conference on Software Engineering (ICSE'12)*, Zurich, Switzerland, June 2-9, 2012. Acceptance rate: 21%.

C2. Collin McMillan, Mark Grechanik, Denys Poshyvanyk. Detecting Similar Software Applications. *34th International Conference on Software Engineering (ICSE'12)*, Zurich, Switzerland, June 2-9, 2012. Acceptance rate: 21%.

C3. Kunal Taneja, Mark Grechanik, Rayid Ghani, and Tao Xie. Software Testing In Age of Data Privacy: A Balancing Act. *The 8th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, September 2011, Szeged, Hungary. Acceptance rate: 16.8%.

C4. Collin McMillan, Mario Linares-Vàsquez, Denys Poshyvanyk, and Mark Grechanik. Categorizing Software Applications For Maintenance. *In Proceedings of the 27th International Conference on Software Maintenance (ICSM 2011)*, Williamsburg, VA, September 2011. Acceptance rate: 28%.

C5. Collin McMillan, Mark Grechanik, Denys Poshyvanyk, Chen Fu, and Qing Xie. Portfolio: Finding Relevant Functions And Their Usages. *33rd International Conference on Software Engineering (ICSE'11)*, Honolulu, Hawaii, May 2011. Acceptance rate: 14%.

- C6. Mark Grechanik, Christoph Csallner, Chen Fu, and Qing Xie. “Is Data Privacy Always Good For Software Testing?” *IEEE International Symposium on Software Reliability Engineering (ISSRE’10)*, San Jose, CA, November 1-4, 2010. Acceptance rate: 31%. **This paper won the best paper award.**
- C7. Mark Grechanik, Collin McMillan, Luca DeFerrari, Marco Comi, Stefano Crespi, Denys Poshyvanyk, Chen Fu, Qing Xie, and Carlo Ghezzi. “An Empirical Investigation into a Large-Scale Java Open Source Code Repository,” *International Symposium on Empirical Software Engineering and Measurement (ESEM’10)*, Bolzano-Bozen, Italy, Sept, 2010. Acceptance rate: 29.4%.
- C8. Mark Grechanik, Chen Fu, Qing Xie, Collin McMillan, Denys Poshyvanyk, and Chad Cumby. “A Search Engine For Finding Highly Relevant Applications,” *32nd International Conference on Software Engineering (ICSE)*, Capetown, South Africa, May 2010. Acceptance rate: 13.5%.
- C9. Mark Grechanik, Qing Xie, and Chen Fu. “Experimental Assessment of Manual Versus Tool-Based Maintenance of GUI-Directed Test Scripts,” *25th IEEE International Conference on Software Maintenance (ICSM)*, Edmonton, Alberta, Canada, September 2009. Acceptance rate: 21.6%.
- C10. Mark Grechanik, Qing Xie, and Chen Fu. “Maintaining And Evolving GUI-Directed Test Scripts,” *31st International Conference on Software Engineering (ICSE)*, Vancouver, BC, Canada, May 2009. Accept. rate: 12.8%.
- C11. Chen Fu, Mark Grechanik, and Qing Xie. “Inferring Types Of References To GUI Objects In Test Scripts,” *International Conference on Software Testing Verification and Validation (ICST)*, Denver, CO, April 2009. Acceptance rate 29%. **This paper won the best paper award.**
- C12. Mark Grechanik. “Finding Errors in Components That Exchange XML Data,” *International Conference on Automated Software Engineering (ASE)*, November, 2007, Atlanta, GA. Acceptance rate: 11.8%.
- C13. Kevin Conroy, Mark Grechanik, Matthew Hellige, Edy S. Liongosari, and Qing Xie. “Automatic Test Generation From GUI-Based Applications For Testing Web Services,” *23rd International Conference on Software Maintenance (ICSM)*, October 2007, Paris, France. Acceptance rate: 21%.
- C14. Mark Grechanik, Kathryn S. McKinley, and Dewayne E. Perry. “Recovering And Using Use-Case-Diagram-To-Source-Code Traceability Links,” *The 6th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, September 2007, Dubrovnik, Croatia. Acceptance rate: 15%.
- C15. Mark Grechanik and Kevin Conroy. “Composing Integrated Systems Using GUI-Based Applications And Web Services,” *IEEE International Conference on Services Computing (SCC 2007)*, July 2007, Salt Lake City, UT. Acceptance rate: 20%.

- C16. Mark Grechanik, Kevin Conroy, and Kishore S. Swaminathan. “Creating Web Services From GUI-Based Applications,” *IEEE International Conference on Service-Oriented Computing and Applications (SOCA’07)*, June 2007, Newport Beach, CA. Acceptance rate: 48%.
- C17. Mark Grechanik, Dewayne E. Perry, and Don Batory, “A Scalable Security Mechanism For Component-Based Systems,” *Fifth International Conference on COTS-Based Software Systems (ICCBSS)*, February 2006, Orlando, FL.
- C18. Mark Grechanik, Dewayne E. Perry and Don Batory, “Using AOP to Monitor and Administer Software for Grid Computing Environments,” *The 29th Annual International Computer Software and Applications Conference (COMPSAC 2005)*, July 2005, Edinburgh, Scotland, UK. Acceptance rate 25%.
- C19. Mark Grechanik, Don Batory and Dewayne E. Perry, “Design of Large-Scale Polylingual Systems,” *26th International Conference on Software Engineering*, May 2004, Edinburgh, Scotland, UK. Acceptance rate 13%.
- C20. Mark Grechanik and Dewayne E. Perry, “Secure Deployment of Components,” *2nd International Conference on Component Deployment*, May 2004, Edinburgh, Scotland, UK. Acceptance rate 47%.
- C21. Mark Grechanik, Don Batory and Dewayne E. Perry, “Integrating and Reusing GUI-Driven Applications,” *International Conference on Software Reuse (ICSR)*, April 2002, Austin, Texas. Acceptance rate 33%.

### Refereed Workshop Publications

- W1. Mark Grechanik, James A. Jones, Alessandro Orso, and Andre van der Hoek. Bridging Gaps Between Developers And Testers In Globally-Distributed Software Development. *FSE/SDP Workshop on the Future of Software Engineering Research*, Santa Fe, NM, November 7-8, 2010. Acceptance: 67%.
- W2. Mark Grechanik, Qing Xie, and Chen Fu. “Creating GUI Testing Tools Using Accessibility Technologies,” *Int. Workshop on TESTING Techniques and Experimentation Benchmarks for Event-Driven Software (TESTBEDS 2009)*, Denver, CO, USA, April 4, 2009.
- W3. Denys Poshyvanyk and Mark Grechanik. “Creating and Evolving Software by Searching, Selecting and Synthesizing Relevant Source Code,” *New Ideas and Emerging Results (NIER) Track of ICSE 2009*, Vancouver, British Columbia, Canada, May 2009. Acceptance rate: 18%.
- W4. James A. Jones, Mark Grechanik, and Andre van der Hoek. “Enabling and Enhancing Collaborations between Software Development Organizations and Independent Test Agencies,” *Cooperative and Human Aspects of Software Engineering (CHASE)*, Vancouver, British Columbia, Canada, May 2009.
- W5. Mark Grechanik and Denys Poshyvanyk. “Evaluating Recommended Applications,” *International Workshop on Recommendation Systems for Software Engineering (RSSE 2008)*, Atlanta, GA, November 10, 2008.

- W6. Mark Grechanik, Kevin Conroy, and Katharina Probst. “Finding Relevant Applications For Prototyping,” *International Workshop on Mining Software Repositories (MSR 2007)* co-located with 29th ICSE’07, May 21, 2007, Minneapolis, MN. Acceptance rate: 37%.
- W7. Kevin Bierhoff, Mark Grechanik and Edy S. Liongosari. “Architectural Mismatch in Service-Oriented Architectures,” *International Workshop on Systems Development in SOA Environments (SDSOA 2007)* co-located with 29th ICSE’07, May 2007, Minneapolis, MN.
- W8. Mark Grechanik. “Finding Errors in Interoperating Components,” *2nd International Workshop on Incorporating COTS Software Into Software Systems (IWICSS)*, May 2007, Minneapolis, MN
- W9. Mark Grechanik and Dewayne E. Perry, “Analyzing Software Development as a Noncooperative Game,” *6th International Workshop on Economics-Driven Software Engineering Research (EDSER6)* co-located with 26th ICSE’04, May 2004, Edinburgh, Scotland, UK.
- W10. Mark Grechanik and Dewayne E. Perry, “Re-engineering Large-Scale Polylingual Systems,” *International Workshop on Incorporating COTS into Software Systems: Tools and Techniques (IWICSS)*, Feb 2004, Los Angeles, CA.
- W11. Mark Grechanik, Dewayne E. Perry, and Don Batory, “An Approach to Evolving Database Dependent Systems,” *International Workshop on Principles of Software Evolution*, May 2002, Orlando, FL.

### **Refereed Tutorials and Technical Briefings**

- T1. Mark Grechanik and Denys Poshyvanyk. Software Engineering in the Age of Data Privacy. *International Conference on Software Engineering*, Zurich, Switzerland, June 2-9, 2012. Acceptance: 36%.

### **Conference Tool Demos**

- D1. Collin McMillan, Mark Grechanik, Denys Poshyvanyk, Chen Fu, and Qing Xie. Portfolio: Finding Relevant Functions And Their Usages. *33rd International Conference on Software Engineering (ICSE’11), Research Tool Demo Track*, Honolulu, Hawaii, May 2011. Acceptance rate: 37%.
- D2. Mark Grechanik, Chen Fu, Qing Xie, Collin McMillan, Denys Poshyvanyk, and Chad Cumby. “Exemplar: EXEcutable exAMPLES ARchive,” *32nd International Conference on Software Engineering (ICSE), Research Tool Demo Track*, Capetown, South Africa, May 2010. Accept. rate 25%.
- D3. Qing Xie, Mark Grechanik, Chen Fu and Chad Cumby. GUIDE: A GUI Comparison Tool, *International Conference on Software Maintenance (ICSM), Tool Demonstration Track*, September, 2009, Edmonton, Alberta, Canada.
- D4. Qing Xie, Mark Grechanik, and Chen Fu. “REST: A Tool for Reducing Effort in Script-based Testing,” *International Conference on Software Maintenance (ICSM), Tool Demonstration Track*, Sept, 2008, Beijing, China.

- D5. Qing Xie, Mark Grechanik, and Matt Hellige. “SMART: A Tool for Application Reference Testing,” *International Conference on Automated Software Engineering (ASE)*, Tool Demonstration Track, Nov 2007, Atlanta, GA.

AWARDED  
PATENTS

- P1. Mark Grechanik, Kevin M. Conroy, Matthew Hellige, Edy S. Liongosari, and Qing Xie. “Automatic Test Generation for Reference Testing,” Patent No. US 7,979,846 B2, July, 2011.
- P2. Mark Grechanik, Kevin M. Conroy, Kishore S. Swaminathan, and Edy S. Liongosari. “Tool for Converting Applications to Web Services,” Patent No. US 7,971,183 B2, June, 2011.
- P3. Mark Grechanik. “Feature Configuration Analysis Tool,” Patent No. US 7,865,454 B2, January, 2011.
- P4. Vitaly Pushnyak and Mark Grechanik. “Cable Input Device.” USSR Patent 3981111, November 25, 1985.

TECHNICAL  
REPORTS AND  
THESES

**Contain extended versions of published refereed papers**

- R1. Mark Grechanik. “Design and Analysis of Interoperating Components.” Doctoral Dissertation. The University of Texas at Austin, Department of Computer Sciences, December 2006.
- R2. Mark Grechanik. “Viola: A Verifier for Interoperating Components.” Technical Report TR-05-48. The University of Texas at Austin, Department of Computer Sciences, December 2005.
- R3. Mark Grechanik, Kathryn S. McKinley and Dewayne E Perry. “Automating and Validating Program Annotations.” Technical Report TR-05-39. The University of Texas at Austin, August 2005.
- R4. Mark Grechanik, Dewayne E. Perry and Don Batory, “CASSIA: A Comprehensive Scalable Security Infrastructure For Large-Scale Component-Based Systems.” Technical report TR04-31, The University of Texas at Austin, Department of Computer Sciences, 2004.
- R5. Mark Grechanik. “Computer Techniques and Algorithms for Detection of Heteroclinic Connections in Experimental Data.” Master Thesis, Department of Computer Science, University of Texas at San Antonio, Dec 1998.
- R6. Ivan Grabar, Mark Grechanik and Andrey Gromovoy. “Fixed Points of Maps with Advanced Degree of Memory.” Technical Report 567-Yk92, Ukrainian Research Institute of Information, Kiev, Ukraine, May 1992.
- R7. Mark Grechanik. “Simulating and Modeling Electronic Systems of Automatic Control in the Neighborhood of Their Chaotic Behavior.” Master Thesis, Department of Electronic Systems of Automatic Control, Kiev Polytechnic Institute, Kiev, USSR, July 1991.

- R8. Ivan Grabar and Mark Grechanik. “Bifurcations in Generalized One-dimensional Maps.” Technical Report 1067-Yk91, Ukrainian Research Institute of Information, Kiev, USSR, July 1991.
- R9. Ivan Grabar and Mark Grechanik. “Bifurcations in Maps with Advanced Degree of Memory.” Technical Report 49-Yk91, Ukrainian Research Institute of Information, Kiev, USSR, January 1991.
- R10. Mark Grechanik, Andrey Gromovoy, and Vyacheslav Manoylov. “Solving Transcendental Equations of a Multi-Layered Axial Waveguide By the Method of a Parameter Derivation.” Technical Report 591-Yk90, Ukrainian Research Institute of Information, Kiev, USSR, April 1990.

MISCELLANEOUS **Nonrefereed articles and reports**

- M1. Mark Grechanik and Dewayne E.Perry. “An Aspect-Oriented Approach For Fine-Grained Control And Allocation Of Resources For Computational Grids.” The University of Texas at Austin Center for Advanced Research in Software Engineering, October 2003.
- M2. Mark Grechanik. “Integration of the SoftSolutions Document Management System with Ingres RDBMS.” Ingres World Conference, New Orleans, LA, July 16-21, 1995.
- M3. Mark Grechanik. “Advantages Of Using UNIX Tools With C-Embedded SQL For Data Migration Programs.” Ingres World Conf., Chicago, IL, 1994.
- M4. Ivan Grabar and Mark Grechanik. “Design of Universal Orientation Mechanisms of Loading Devices Using Non-Linear Poincaré Maps.” Conference on Applications of Robotics To Technological Processes, Zhitomir, Ukraine, May 1991.

PROFESSIONAL **Funding Panels**

ACTIVITIES

- National Science Foundation (NSF) - Panel member, 2010.
- CORE reviewer, Fonds National de la Recherche de Luxembourg, 2010.
- Natural Sciences and Engineering Research Council of Canada, 2010.

**Service**

- A member-at-large of the ACM SigSoft Executive Committee.
- I represent ACM SigSoft on the working group for planning a one-day celebration of Alan Turing prior to the 2012 ACM Award Banquet.
- Manager of the ACM SigSoft group at LinkedIn with over 600 members.

**Workshop and Conference Leadership**

- Organizer of the International Workshop on End-to-end Test Script Engineering (ETSE 2011) co-located with ISSTA.
- Organizer of the International Workshop on End-to-end Test Script Engineering (ETSE 2012) co-located with ISSTA.

### **Program Committee Chair**

- Co-Chair of the Student Contest on Software Engineering (SCORE), IEEE/ACM International Conference on Software Engineering (ICSE). San Francisco, CA, May 17 - 27, 2013.
- Research Demo Chair, 20th ACM SigSoft International Symposium on Foundations of Software Engineering, FSE'20, 2012.
- Co-Chair of the Industry Track, Working Conference on Reverse Engineering (WCRE12), Palo Alto, CA, October 2012.
- Co-Chair of the industry track, 27th IEEE ICSM International Conference on Software Maintenance. Williamsburg, VA, Sept 25 - Oct 1, 2011.
- Sponsorship Chair, ACM SIGSOFT / FSE-18, Santa Fe, NM, November 7-11, 2010. Raised over \$150,000 from the conference sponsors working closely with Prof.Catalin Roman.
- Chair of the tool demo track at 25th IEEE International Conference on Software Maintenance (ICSM 2009), Alberta, CA, 2010.
- Co-Chair of the industry track at Aspect-Oriented Software Development (AOSD 2009), Charlottesville, VA, March, 2009.

### **Journal Editor**

- A guest co-editor of a special issue of the Journal of Computer Society of India with Satish Chandra.
- A member of the Editorial Review Board of the International Journal of Information System Modeling and Design (IJISMD).

### **Conference Program Committees**

- The Software Engineering in Practice track (SEIP 2012) of the 34th IEEE/ACM International Conference on Software Engineering (ICSE'12), June 2-9, 2012, Zurich, Switzerland.
- Fifth International Conference on Software Testing, Verification and Validation (ICST 2012), Montreal, CA, April 17 - April 22, 2012.
- 22nd IEEE International Symposium on Software Reliability Engineering (ISSRE 2011), Hiroshima, Japan, Nov 14 - Nov 17, 2011.
- 18th IEEE International Working Conference on Reverse Engineering (WCRE 2011), Limerick, Ireland, Oct 17 - Oct 20, 2011.
- 27th IEEE International Conference on Software Maintenance (ICSM 2011), Williamsburg, Virginia, USA, Sept 25 - Oct 1, 2011.
- The Industry Track of the 5th IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM 2011), Banff, Alberta, CA, Sept 22 - Sept 23, 2011.
- SCORE 2011, the Student Contest on Software Engineering, co-located with ICSE 2011, Honolulu, Hawaii, May, 2011.
- 17th IEEE International Conference on Engineering of Complex Computer Systems (ICECCS12), 2012.
- 16th IEEE International Conference on Engineering of Complex Computer Systems (ICECCS11), Las Vegas, USA, April, 2011.
- Research Tool Demo Track. ACM SIGSOFT FSE-18, Santa Fe, NM, November 7-11, 2010.
- 26th IEEE ICSM International Conference on Software Maintenance. Timisoara,

Romania, 12-18 September 2010.

- Early Research Achievement (ERA) Track, 26th IEEE International Conference on Software Maintenance (ICSM). Romania, 12-18 Sept, 2010.
- Research Demonstrations Track, 31st International Conference on Software Engineering (ICSE). Vancouver, Canada, May 16-24, 2009.
- Intl. Conference on Generative Programming and Component Engineering (GPCE'08), Nashville, Tennessee, October 19-23, 2008.

### **Workshop Program Committees**

- The 2nd International Workshop on Regression Testing, April 17, 2012, Montreal, Quebec, Canada.
- Third Intl. Workshop on Search-driven development: Users, Infrastructure, Tools and Evaluation (SUITE 2011). Colocated with 33rd International Conference on Software Engineering (ICSE), Honolulu, Hawaii, May, 2011.
- 6th IEEE Int. workshop on UML and AADL, Las Vegas, April 27, 2011.
- Third International Workshop on TESTING Techniques & Experimentation Benchmarks for Event-Driven Software (TESTBEDS 2011), Berlin, Germany, March, 2011.
- 6th International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE 2011), May, 2011.
- Research Tool Demo Track. ACM SIGSOFT FSE-18, Santa Fe, NM, November 7-11, 2010.
- Second Intl. Workshop on Search-driven development: Users, Infrastructure, Tools and Evaluation (SUITE 2010). Cape Town, South Africa, May, 2010.
- 3rd International Workshop on Knowledge Collaboration in Software Development (KCS2009), Nov. 19-20, 2009, Tokyo, Japan.
- 5th International Workshop on Traceability in Emerging Forms of Software Engineering, Vancouver, British Columbia, Canada, May 18, 2009.
- Workshop on Search-Driven Development: Users, Infrastructure, Tools and Evaluation, Vancouver, British Columbia, Canada, May 16, 2009.
- Workshop on Analyses of Software Product Lines (ASPL'08), Limerick, Ireland, September 12, 2008.
- Workshop on Testing, Analysis and Verification of Web Software, Seattle, WA, Monday, July 21, 2008.
- IEEE International Workshop on Engineering of Software Fault-tolerance in conjunction with the ACM SIGSOFT FSE, 2007.
- IEEE Workshop on Incorporating COTS Software into Software Systems (IWICSS) in conjunction with the 26th ICSE, 2007.

### **Panels**

- Panelist at Aspect-Oriented Software Development (AOSD 2009), Charlottesville, VA, March, 2009.
- Panelist at the International Workshop on Traceability in Emerging Forms of Software Engineering, Vancouver, British Columbia, Canada, May 18, 2009.

### **Reviewer**

- Communications of the ACM;
- Journal on Empirical Software Engineering;

- Elsevier: Information and Software Technology;
- IEEE Transactions on Reliability;
- ACM Transactions on Internet Technology (TOIT);
- Journal of Computer Science and Technology, special issue on Soft. Eng.;
- IEEE Software: Special issue on Opportunistic Software Systems Development, 2005;
- Reviewer for the Journal on Software and System Modeling (SoSyM);
- IEEE Transactions on Software Engineering (TSE);
- ACM Transactions on Software Engineering and Methodology (TOSEM);
- Special Issue on Industrial Applications of Aspect Technology for the journal Transactions on Aspect-Oriented Software Development (TAOSD), 2010.

#### INVITED TALKS

- "Software Engineering in the Age of Data Privacy," Carnegie Mellon University (CMU) jointly with NASA Ames (CMU-West), December, 2011.
- "Software Engineering in the Age of Data Privacy – A Balancing Act," The University of Illinois at Urbana Champagne (UIUC), October, 2011.
- "Portfolio: Finding Relevant Functions And Their Usages," Northwestern University, Chicago, IL, January 21, 2011.
- "Portfolio: Finding Relevant Functions And Their Usages," Dagstuhl Seminar on Feature Oriented Software Development (11021) from 9.01.2011 to 14.01.2011. Schloss Dagstuhl, Germany.
- "Preserving Test Coverage While Achieving Data Anonymity For Database-Centric Applications," The University of Illinois at Urbana Champagne (UIUC), April, 2010.
- "Preserving Test Coverage While Achieving Data Anonymity For Database-Centric Applications," Dagstuhl Seminar on Practical Software Testing: Tool Automation and Human Factors (10111) from 14.03.2010 to 19.03.2010. Schloss Dagstuhl, Germany.
- "Preserving Test Coverage While Achieving Data Anonymity For Database-Centric Applications," The College of William and Mary, Williamsburg, VA. November, 2009.
- "Efficient Securing of Multithreaded Server Applications," Wayne State University, Detroit, MI, February 2008.
- "Viola: A Verifier for Interoperating Components." University of Denver, Denver, CO. March 2006.
- "Viola: A Verifier for Interoperating Components." University of Nebraska, Lincoln, Lincoln, NA. February 2006.

#### POSTDOC

- Dr. Haisheng Wang, U. of Illinois, Chicago, Nov. 2010 - Aug. 2011.

#### CURRENTLY

#### SUPERVISED

#### PH.D. STUDENTS

- B.M. Mainul Hossain's research is in improving reliability and testing rule-driven applications.

PH.D.

COMMITTEES

- Collin McMillan, Creating and Evolving Software via Searching, Selecting and Synthesizing Relevant Source Code, The College of William and Mary, Williamsburg, VA.
- Prithvi Bisht, Learning Intended Behavior to Detect and Prevent Attacks on Web Applications, University of Illinois at Chicago.
- Carlos Castro-Herrera, Application of Recommender Systems to Requirements Engineering Tasks, Depaul University, Chicago.
- Nazri Kama, Developing and assessing techniques for predicting the impact of a change request made during software development, University of Western Australia, Perth, Australia.
- Plamen Petrov, Enhancing the Software Architecture Analysis and Design Process with Inferred Macro-Architectural Requirements, U. of Illinois, Chicago.
- Kalpana Gondi, Program Analysis Techniques For Data Confidentiality, U. of Illinois, Chicago.

GRADUATED MS  
STUDENTS WITH  
MASTER THESIS  
UNDER MY  
GUIDANCE AT U.  
OF ILLINOIS,  
CHICAGO

1. Aswathy Nair, Automatically Finding Abstractions for Input Space Partitioning for Software Performance Testing. September, 2011.
2. Andrea Bonisiol, Testing Rule-Based Applications. December 2010.
3. Marco Comi, Exploring Sourceforge Java Repository: A Structured Storage For Java Applications. May 2010. I co-supervised Marco with prof. Carlo Ghezzi from the Politecnico di Milano.
4. Stefano Crespi, Exploring Sourceforge Java Repository: Design and Implementation of Java Parser. May 2010. I co-supervised Stefano with prof. Carlo Ghezzi from the Politecnico di Milano.
5. Luca DiMinervino, Design and Analysis of Portfolio: A Code Search Engine That Is Based On Module Dependencies Ranking. May 2010.
6. Daniele Casulli, Development Of Personalized Mashup Components. May 2010. I co-supervised Daniele with prof. Maristella Matera from the Politecnico di Milano.
7. Luca DeFerrari, Exploring Sourceforge Java Repository: Design and Implementation of the Multithreaded Crawler. December 2009. I co-supervised Luca with prof. Carlo Ghezzi from the Politecnico di Milano.
8. Alessio di Stasio, Executing Universal Compositions: A Framework for the Integration of Web Services and User Interfaces. May, 2009. I co-supervised Alessio with profs. Prasad Sistla from UIC and Maristella Matera from the Politecnico di Milano.

GRADUATED MS  
STUDENTS WITH  
MASTER  
PROJECTS UNDER  
MY GUIDANCE AT  
U. OF ILLINOIS,  
CHICAGO

1. Guillermo Vazques, December, 2008. Currently with Norvax, Inc.

2. Palak Jain, May 2009. Peak6 Investment. Chicago, IL.
3. Samatha Mannem, May 2009. Currently with Microsoft Corp.
4. Arvind Gopal, May 2009. Currently with Microsoft Corp.
5. Svetha Doddapaneni, December 2009.
6. Venu Madhav Thiruveedhi, December 2009.
7. Rahul Kolganti, December 2009.
8. Swetha Shenoy, December 2009.
9. Navya Bisalehali, December 2009.
10. Vijay Dheeraj Reddy Mandadi, August 2009.
11. Gowri Serkar Malapaka, August 2009.
12. Nimit Shah, May 2010.
13. Hariharan Subramanian, May 2010.
14. Arunraj Kumar Dharumar, December 2010.
15. Rohan Dhond, May 2010.
16. Sekhar Gopisetty, May 2010.
17. Naresh Regunta, May 2010.
18. Ameya Barve, May 2010.
19. Ashim Shihvare, December 2010.
20. Denzil Rodrigues, May 2010.
21. Akila Balasubramanian, May 2010.
22. Naga Keerthi Gummadi, December 2010.
23. Ashwini Vishwanath, May 2010.
24. Karthika Balachandran, August 2010.
25. Balamurugan Prabakaran, January 2011.
26. Lavanya Soundarajan, May 2011.
27. Himanshu Sharma, May 2011.
28. Faraz Munshi, May 2011.
29. Priyanka Dawani, May 2011.
30. Kalyani Balakumar, May 2011.

31. Rohan C. Dhond, August 2011.
32. Arunsanjay Jayarathanam, August 2011.
33. Nischit Ranganath, August 2011.
34. Arthi Vijayakumar, August 2011.
35. Vaidehi Chandrasekar, December 2011.
36. Sugi Venugeethan, December 2011.
37. Deepthi Engalaur, December 2011.

ACADEMIC  
EXPERIENCE

**University of Illinois at Chicago, Department of Computer Science,**  
Chicago, Illinois, USA

*Adjunct Assistant Professor*

**Fall 2008 to Current**

- CS 540: Advanced Software Engineering, Fall 2010, Fall 2011. Graduate-Level Course.
- CS 107: Introduction to Computing, Summer 2010. Undergraduate-Level Course.
- CS 480: Database Systems, Spring 2010. Graduate-Level Course.
- CS 474: Object-Oriented Languages And Environments, Spring 2009. Graduate-level course.
- CS 441: Distributed Objects, Fall 2008, Fall 2009. Graduate-level course.

**Northwestern University, Department of Computer Science,** Chicago,  
Illinois, USA

*Adjunct Assistant Professor*

**Fall 2011 to Current**

**DePaul University, Department of Computer Science,** Chicago, Illinois,  
USA

*Adjunct Assistant Professor*

**Fall 2008 to Winter 2010**

- SE 457: Service-Oriented Architectures, Spring 2009. Graduate-Level Course.
- SE 549: Model-Driven Software Development, Winter, Summer 2009. Graduate-level course.

**Texas State University at San Marcos, Department of Computer Science,**  
San Marcos, Texas, USA

*Adjunct Professor*

**Spring 2004 to Summer 2006**

- CS 5392: Formal Methods of Software Engineering, Spring 2004, Spring 2006, Graduate-level course.
- CS 5391: Survey of Software Engineering, Spring 2004, Fall 2004, Spring 2005, Graduate-level course.

- CS 4378X: Computer Systems Security, Fall 2004, Spring 2006, Undergraduate-level course.
- CS 5369X: Advanced Computer Security, Spring 2005, Graduate course.
- One of my former graduate students, Enos Jones is now a Ph.D candidate at the University of Texas at Austin.

**The University of Texas at San Antonio, Department of Computer Science, San Antonio, Texas USA**

*Adjunct Professor*

**Summer 2004**

- CS 5103: Software Engineering, Summer 2004, Graduate-level course.

PROFESSIONAL  
EXPERIENCE

**Accenture Technology Labs, Chicago, IL USA**

*Research Lead*

**May 2006 to current**

- Work on testing, software reuse, performance modeling, and security.
- Among other things I created an approach for maintaining and evolving testing scripts for automating testing processes that resulted in the annual savings of over \$60 Mil for Accenture.

**MG Advanced Computing, Austin, TX USA**

*Principal Software Consultant*

**August 1997 to May 2006**

**Primary Activities:** Consulted startup and Fortune 500 companies such as IBM, Boundless Technologies, Ambac Connect, Isochron, and many more. As a project saver and problem solver, I have been working on enterprise-strength distributed projects that often integrated with legacy systems.

**Isochron/The Coca-Cola Corp:** Design, and development of the next generation software for vending machines.

**BMC Software Corp:** Design, and development of computer resources monitoring and administration software that is a part of the GuardianAngel Suite at BMC Inc.

**KLA-Tencor:** Designed and developed technology for semiconductor overlay analysis control embedded system. Defined and developed mathematical model for modeling the overlay quantity for wafers. Developed core distributed components for the embedded system.

**GlobeSet Inc:** Provide expertise for high complexity software projects.

**Information Security/Smart Cards Group, Schlumberger Corp:** I defined the architecture, did OO design and development of Smart Card Management System.

**IBM Corp:** Design and development of Operating System Dependent (OSD) layer for Oracle Parallel Server for Windows NT and AIX with accordance to the Cluster Interface Specification for ORACLE. Made improvements to Linux kernel to add fault-tolerant system services. Created NT services that managed software high availability, fault-tolerant core cluster systems. Did design and development of VideoCharger Client/Server project, particular client network internals to enable MPEG-1, MPEG-2, and LBR full motion video to be played through standard modems, Ethernet and ATM networks.

**Origin Systems Inc:** Designed and developed Remote Game Controller.  
**Boundless Technologies:** Design and development of Viewpoint Administrator to centralize the management of network PCs.

**Mobiltap, Inc.,** Austin, TX USA

*Founder and Vice President of Engineering* **Feb 2000 to Feb 2001**

- Research, design, and development of a distributed system that enables semi-automatic conversion of legacy applications into black-box components with the following integration into an open enterprise collaborative environment.
- Led the fund raising effort with the following venture capital companies: Austin Ventures, TL Ventures, Centerpoint Ventures, Hunt Ventures, Sanchez Capital Partners, Inman Ventures, and Polaris Ventures.

**UniSQL, Inc.,** Austin, TX USA

*Senior Software Engineer* **April 1997 to August 1997**

- Design and development of concurrency control and lock management algorithm as a part of UniSQL/Cheetah Object-Relational DBMS for multiple CPUs on SMP.
- Design and development of SQL Query interpreter particularly such features as compiled plan management, RTTI subsystem, and subquery evaluator.

**Arrowsmith Technologies, Inc.,** Austin, TX USA

*Senior Software Engineer* **April 1994 to April 1997**

- Design, implement, and modify various communication protocols for embedded systems.

**Precision Tracking FM, Inc.,** Austin, TX USA

*Senior Software Engineer* **October 1991 to April 1994**

- Developed an embedded software package to support electronic infrared ray tracking system.

**Applied Radiophysical System Design Laboratory, Kiev Polytechnic Institute,** Kiev, Ukraine USSR

*Principal Software Engineer* **June 1985 to September 1991**

- Designed and developed built-in software for the real-time embedded Extra-High Frequency waveguide systems for the Space Research Institute in Moscow, USSR.

## REFERENCES

- Prof. Don Batory, Department of Computer Sciences, The University of Texas at Austin. Prof.Batory was the Ph.D. advisor of Dr.Grechanik.
- Prof. Dewayne Perry, Department of Electrical and Computer Engineering, The University of Texas at Austin. Prof.Perry was the Ph.D. advisor of Dr.Grechanik.

- Prof. Carlo Ghezzi, Department of Electronics and Information of Politecnico di Milano.
- Prof. Mary Jean Harrold, College of Computing, Georgia Institute of Technology.
- Prof. James D. Herbsleb, Institute for Software Research, School of Computer Science, Carnegie Mellon University.
- Prof. Premkumar Devanbu, Computer Science Department at the University of California at Davis.
- Prof. David S. Rosenblum, Department of Computer science at the National University of Singapore (NUS).
- Prof. Adam A. Porter, Department of Computer Science, University of Maryland and University of Maryland Institute for Advanced Computing Studies (UMIACS).
- Associate Prof. Atif Memon, Department of Computer Science, University of Maryland and University of Maryland Institute for Advanced Computing Studies (UMIACS).
- Prof. Sebastian Elbaum, Department of Computer Science, University of Nebraska at Lincoln.