

Biographical Sketch for Guoqing (Harry) Xu

Education

The Ohio State University, Columbus, OH	Computer Science	Ph.D., 2011
The Ohio State University, Columbus, OH	Computer Science	M.S., 2010
East China Normal University, Shanghai, China	Computer Science	M.S., 2005
East China Normal University, Shanghai, China	Computer Science	B.S., 2002

Professional Experience

University of California, Irvine, Department of Computer Science

Assistant Professor, July 2011 to present

The Ohio State University, Department of Computer Science and Engineering

Research Assistant, September 2005 to July 2011

IBM T. J. Watson Research Center, Dynamic Optimization Group

Research Intern/Co-op, June 2008 to March 2011

Research Interests

Programming languages, compilers, software engineering, static and dynamic program analysis, runtime systems

Recent Publications

1. R. Khatchadourian, P. Greenwood, A. Rashid, and G. Xu. Pointcut rejuvenation: Recovering pointcut expressions in evolving aspect-oriented software. In *IEEE Transactions on Software Engineering (TSE)*, accepted for publication, 2012.
2. G. Xu, M. D. Bond, F. Qin, and A. Rountev. Leakchaser: Helping programmers narrow down causes of memory leaks. In *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 270–282, 2011.
3. D. Yan, G. Xu, and A. Rountev. Demand-driven context-sensitive alias analysis for Java. In *ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA)*, pages 155–165, 2011.
4. G. Xu, N. Mitchell, M. Arnold, A. Rountev, E. Schonberg, and G. Sevitsky. Finding low-utility data structures. In *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 174–186, 2010.
5. G. Xu and A. Rountev. Detecting inefficiently-used containers to avoid bloat. In *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 160–173, 2010.
6. G. Xu, N. Mitchell, M. Arnold, A. Rountev, E. Schonberg, and G. Sevitsky. Software bloat analysis: Finding, removing, and preventing performance problems in modern large-scale object-oriented applications. In *ACM SIGSOFT FSE/SDP Workshop on the Future of Software Engineering Research (FoSER)*, pages 421–426, 2010.
7. G. Xu, M. Arnold, N. Mitchell, A. Rountev, and G. Sevitsky. Go with the flow: Profiling copies to find runtime bloat. In *ACM SIGPLAN Conf. Programming Language Design and Implementation (PLDI)*, pages 419–430, 2009.
8. G. Xu, A. Rountev, and M. Sridharan. Scaling CFL-reachability-based points-to analysis using context-sensitive must-not-alias analysis. In *European Conference on Object-Oriented Programming (ECOOP)*, pages 98–122, 2009.
9. R. Khatchadourian, P. Greenwood, A. Rashid, and G. Xu. Pointcut rejuvenation: Recovering pointcut expressions in evolving aspect-oriented software. In *IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 575–579, short paper, 2009.
10. G. Xu and A. Rountev. Merging equivalent contexts for scalable heap-cloning-based context-sensitive points-to analysis. In *ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA)*, pages 225–236, 2008.

11. G. Xu and A. Rountev. Precise memory leak detection for Java software using container profiling. In *International Conference Software Engineering (ICSE)*, pages 151–160, 2008. ACM SIGSOFT Distinguished Paper Award.
12. G. Xu and A. Rountev. AJANA: A general framework for source-code-level interprocedural dataflow analysis of AspectJ software. In *International Conference on Aspect-Oriented Software Development (AOSD)*, pages 36–47, 2008.
13. A. Rountev, M. Sharp, and G. Xu. IDE dataflow analysis in the presence of large object-oriented libraries. In *International Conference on Compiler Construction (CC)*, pages 53–68, 2008.
14. G. Xu, A. Rountev, Y. Tang and F. Qin. Efficient checkpointing of Java software using context-sensitive capture and replay. In *ACM SIGSOFT Symp. Foundations of Software Engineering (FSE)*, pages 85–94, 2007.
15. G. Xu and A. Rountev. Regression test selection for AspectJ software. In *International Conference on Software Engineering (ICSE)*, pages 65–74, 2007. Nominated for ACM SIGSOFT Distinguished Paper Award.

Honors and Awards

Distinguished Research Award, OSU Computer Science (2010)
 Upsilon Pi Epsilon (UPE) honor society for computer science and engineering (2010)
 Best Research Poster Award, 4th OSU/CSE Research Poster Exhibition (2010)
 IBM Research Ph.D. Fellowship (2010)
 ACM SIGSOFT Distinguished Paper Award (2008)
 ACM SIGSOFT Distinguished Paper Award Nomination (2007)
 Ohio State University Distinguished University Fellowship (2005)

Synergistic Activities

Reviewer

Science of Computer Programming (2011)
 International Journal on Computer Science and Technology (2011)
 ACM SIGPLAN Conference on Programming Language Design and Implementation (2010-2011)
 ACM SIGSOFT International Symposium on Software Testing and Analysis (2008, 2010)
 International Conference on Software Engineering (2007-2009)
 IEEE Transactions on Software Engineering (2008)
 Journal on Software Practice and Experience (2008)
 ACM SIGSOFT Symposium on the Foundations of Software Engineering (2008)
 International Conference on Software Maintenance (2007)
 International Journal on Information and Software Technology (2007)

Tools released

1. LeakChaser: a VM-based framework for Java memory leak detection (jikesrvm.org/Research+Archive)
2. AJANA framework for interprocedural dataflow analysis of AspectJ programs (www.ics.uci.edu/~guoqingx/tools/ajana.html);