

JeeHyun Hwang

CONTACT INFORMATION	4361 Sugarbend Way Raleigh, NC 27606 USA	<i>Mobile:</i> +1-919-428-0884 <i>E-mail:</i> jhwang4@ncsu.edu www4.ncsu.edu/~jhwang4/
OBJECTIVE	Full-time positions in Research Labs or Industry	
RESEARCH INTERESTS	I have broad research interests and experience in software engineering , software testing , security , and privacy . I developed practical techniques and tools to help build more secure and reliable computer systems, with emphasis on testing and verification of access control. In particular, my research interests include, but not limited to: software testing, software security, model verification, network security, privacy, information assurance, and fine-grained access control.	
EDUCATION	Ph.D. , North Carolina State University, Computer Science, Fall 2006 - present <ul style="list-style-type: none">• Thesis Topic: <i>Testing and Verification of Access Control Policies</i>• Advisor: Dr. Tao Xie• Expected Graduation: July 2012 M.S. , SUNY Stony Brook, Computer Science, 2005 B.S. , Korea University, Computer Science, 2003	
TEACHING EXPERIENCE	North Carolina State University, Raleigh, NC, USA <i>Mentored two undergraduate students under Research Experience for Undergraduates (REU) project</i> <ul style="list-style-type: none">• Belanov Apilli (June 2008 to Dec 2008)• William Lee Formyduval (April 2009 to Dec 2009) Yanbian University of Science and Technology, Yanji, China <i>Instructor for 3 computer science undergraduate courses</i> Spring 2006 <ul style="list-style-type: none">• Programming Language (15 students)<ul style="list-style-type: none">• Taught three hours a week, held office hours, made and graded homework assignments, quizzes, and exams.• Object Oriented Programming (39 students)<ul style="list-style-type: none">• Taught JAVA for three hours a week, held office hours, made and graded homework assignments, quizzes, and exams.• Unix (14 students)<ul style="list-style-type: none">• Taught UNIX and its application for three hours a week, held lab and office hours, made and graded homework assignments, quizzes, and exams.	
INDUSTRY EXPERIENCE	Cisco , Research Triangle Park, NC, USA <i>Research Intern, Software Quality</i> Summer 2010 <ul style="list-style-type: none">• Worked on mining in text in service requests.	

Fermi National Accelerator Laboratory (Fermilab), Batavia, IL, USA

Research Intern, Computer and Network Security Department Summer 2009

- Worked on verifying access control policies in grid environments. Implemented a tool, which helps combine and verify policies.

ABB Inc, Raleigh, NC, USA

Research Intern, U.S. Corporate Research Center Summers 2007 and 2008

- Worked on classifying bug reports according to their root causes. Conducted feasibility study for semi-automated classification based on defined taxonomies. On the other hands, applied text mining to classify the bug reports automatically.

Samsung Data System, Seoul, Korea

Software Engineer, Information System Group Jan 2003 - Aug 2003

- Worked on operating and maintaining the credit payment transaction processing system.

REFEREED
JOURNAL
PUBLICATIONS

1. JeeHyun Hwang, Tao Xie, Fei Chen, and Alex X. Liu. Systematic Structural Testing of Firewall Policies To Appear In *IEEE Transactions on Network and Service Management*, Accepted for publication.
2. Fei Chen, Alex X. Liu, JeeHyun Hwang, and Tao Xie. First Step Towards Automatic Correction of Firewall Policy Faults To Appear In *ACM Transactions on Autonomous and Adaptive Systems*, Accepted for publication.
3. Alex X. Liu, Fei Chen, JeeHyun Hwang, and Tao Xie. Designing Fast and Scalable XACML Policy Evaluation Engines, In *IEEE Transactions on Computers*, Volume 60, Issue 12, Pages 1802-1817, 2011.
4. Vincent Hu, Richard Kuhn, Tao Xie, and JeeHyun Hwang. Model Checking for Verification of Mandatory Access Control Models and Properties, In *International Journal of Software Engineering and Knowledge Engineering*, Volume 21, Issue 1, Pages 103-127, 2011.

CONFERENCE
PUBLICATIONS

5. Donia Elkateb, Tejeddine Mouelhi, Yves Le Traon, Jeehyun Hwang, and Tao Xie. Refactoring Access Control Policies for Performance Improvement, To Appear In *Proceedings of the 3rd ACM/SPEC International Conference on Performance Engineering (ICPE 2012)*, Boston, MA, April 2012.
6. Fei Chen, Alex X. Liu, JeeHyun Hwang, and Tao Xie. First Step Towards Automatic Correction of Firewall Policy Faults, In *Proceedings of the 24th USENIX Large Installation System Administration Conference (USENIX LISA 2010)*, **Best Student Paper Award**, San Jose, pp. 75-90, California, November 2010.
7. JeeHyun Hwang, Tao Xie, Vincent C. Hu, and Mine Altunay. Mining Likely Properties of Access Control Policies via Association Rule Mining, In *Proceedings of the 24th Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec 2010)*, Rome, Italy, pp. 193-208, June 2010.
8. JeeHyun Hwang, Tao Xie, Fei Chen, and Alex X. Liu. Fault Localization for Firewall Policies, In *Proceedings of the 28th IEEE International Symposium on Reliable Distributed Systems (SRDS 2009)*, Short Paper, Niagara Falls, New York, pp. 100-106, September 2009.

9. JeeHyun Hwang, Tao Xie, and Vincent C. Hu. Detection of Multiple-Duty-Related Security Leakage in Access Control Policies, In *Proceedings of the 3rd IEEE International Conference on Secure Software Integration and Reliability Improvement (SSIRI 2009)*, Shanghai, China, pp. 59-68, July 2009.
 10. Evan Martin, JeeHyun Hwang, Tao Xie, and Vincent C. Hu. Assessing Quality of Policy Properties in Verification of Access Control Policies, In *Proceedings of the 24th Annual Computer Security Applications Conference (ACSAC 2008)*, Anaheim, California, pp. 163-172, December 2008.
 11. JeeHyun Hwang, Tao Xie, Fei Chen, and Alex X. Liu. Systematic Structural Testing of Firewall Policies, In *Proceedings of the 27th IEEE International Symposium on Reliable Distributed Systems (SRDS 2008)*, Napoli, Italy, pp. 105-114, October 2008.
 12. Alex X. Liu, Fei Chen, JeeHyun Hwang, and Tao Xie. XEngine: A Fast and Scalable XACML Policy Evaluation Engine, In *Proceedings of the International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS 2008)*, Annapolis, Maryland, pp. 265-27, June 2008.
- OTHER PUBLICATIONS
13. JeeHyun Hwang, Tao Xie, Vincent Hu and Mine Altunay. ACPT: A Tool for Modeling and Verifying Access Control Policies, In *Proceedings of the 11th International Symposium on Policies for Distributed Systems and Networks (POLICY 2010)*, System Demo, FairFax, VA, July 2010.
 14. Nuo Li, JeeHyun Hwang, and Tao Xie. Multiple-Implementation Testing for XACML Implementations, In *Proceedings of the Workshop on Testing, Analysis and Verification of Web Software (TAV-WEB 2008)*, Seattle, WA, pp. 27-33, July 2008.
 15. Vincent C. Hu, Evan Martin, JeeHyun Hwang, and Tao Xie . Conformance Checking of Access Control Policies Specified in XACML, In *Proceedings of the 1st IEEE International Workshop on Security in Software Engineering (IWSSE 2007)*, Beijing, China, pp. 275-280, July 2007.
- PAPERS UNDER PREPARATION
16. Jeehyun Hwang, Tao Xie, Donia Elkateb, Tejeddine Mouelhi, and Yves Le Traon, . Selection and Augmentation of Regression System Tests for Access Control Policy Evolution, submitted to DSN 2012
 17. JeeHyun Hwang, Tao Xie, Vincent Hu, and Laurie Williams. Engineering Access Control in the Healthcare Domain, In progress.
 18. JeeHyun Hwang, Mine Altunay, Tao Xie, and Vincent Hu. Model Checking Grid Policies, In progress.
- PRESENTATION
- International Symposium on Policies for Distributed Systems and Networks (POLICY), 2010
 - IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec), 2010
 - International Symposium on Reliable Distributed Systems (SRDS), 2009
 - International Conference on Secure Software Integration and Reliability Improvement (SSIRI), 2009
 - International Symposium on Reliable Distributed Systems (SRDS), 2008
- SERVICES
- Co-Reviewer: TAV-WEB 2008, ASE 2008/2011, ICSM 2008, ISSTA 2008, ICST 2008/2011, WWW 2009, RSSE 2010, ICSE 2011, JCST 2011, SPLASH/Onward! 2011

AWARDS

- Finalists selected for the Fifth Annual National Security Innovation Competition (NSIC) at the United States Air Force Academy (2001)
- Best Student Paper Award (USENIX LISA 2010)
- Academic honors in Computer Science Studies, Korea University (2001-2002)
- U.S. Army Commendation Medal for outstanding performance in U.S. Army (2001)

CITIZENSHIP

Republic of Korea, Visa status: F-1 student

REFERENCES
AVAILABLE TO
CONTACT

To be available upon requests