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Mirko Montanari

Education

University of Illinois at Urbana-Champaign – PhD Candidate in Computer Science
Aug 2007 – May 2013 (expected); GPA: 4.0*; Area: Distributed Systems and Security*

Thesis Title: Security of Policy-based Monitoring Systems*; Advisor*: Prof. Roy H. Campbell.

University of Bologna – Laurea Specialistica in Computer Engineering (MS), cum laude
Bologna, Italy; Sept 2002 – March 2006; GPA: 4.0; Area: Distributed Database Systems

Thesis Subject: Interactive exploration of structured data using user preferences.
Advisors: Prof. Paolo Ciaccia, Prof. Sharad Mehrotra, and Prof Nalini Venkatasubramanian

University of Bologna – Laurea in Computer Engineering (BS), cum laude
Bologna, Italy; Sept 1999 – Oct 2002; GPA 3.88

Experience

University of Illinois at Urbana-Champaign – Graduate Research Assistant
Urbana, IL; Aug 2007 – current; Advisor: Prof. Roy H. Campbell

- Implemented a scalable distributed event-based monitoring system for policy compliance.
    - Introduced a distributed event-correlation algorithm based on logic reasoning that provides up to 50% reduction in servers' load and makes the system resilient to attacks.
- Introduced information-sharing techniques that provide up to 40% reduction in the information to share across organizations during the detection of compliance problems in multi-organization systems.
- Defined techniques for validating monitoring data in cloud computing using Virtual Machine Introspection.
- Developed logic-based techniques for the analysis of the security of critical infrastructure systems.
- Systems implemented in Java, C++, Bash or Python scripts.

University of Illinois – Instructor for the Distributed Systems class (CS425)
Urbana, IL; May 2012 – Aug 2012
- Prepared and given 26 lectures on the fundamental concepts and modern applications of Distributed Systems.
- Managed a mixed class of grad / undergrad students 41 students: 21 onsite students, 20 online students.

Amazon.com – Software Development Engineer Intern
Seattle, WA; May 2011 - Aug 2011; Manager: Andrew Kiggins
- Developed analysis and storage solutions for the security monitoring of DDoS attacks to AWS services.

The Boeing Company – Research and Development Intern
Bellevue, WA; May 2008 - Aug 2008; Supervisor: Dr. Scott Lintelman
- Defined logic-based security assessment techniques for the analysis of distributed critical infrastructure systems.

University of California, Irvine – Junior Specialist
Irvine, CA; Sept 2005 - July 2007; Supervisors: Prof. Sharad Mehrotra and Prof. Nalini Venkatasubramanian
- Built a policy-based system for the dissemination of customized information in pub/sub systems.

Void Labs S.N.C. – Consulting / software development company – Co-Founder
Faenza (RA), Italy; Sept 2003 - July 2006
- Developed security tools for newsletter management. Implemented in Java using Apache James.

Impression S.p.A. – Software Developer Engineer
Faenza (RA), Italy, Oct 2000 – June 2003
- Developed data warehouse applications for log analysis and tuned performance of MySQL databases

Skills

Languages: Java; C++; C; PHP, SQL, Python, Prolog and other declarative languages, AWK, Bash scripts.

Dev tools and middleware: Eclipse, Tomcat, Jena, web services, Hadoop, Zookeeper, Openflow, Openstack

System Administration: Linux – administration of production servers and shared research servers.

Database Systems: Management of MySQL and Oracle systems for data-warehouse applications.

Languages

Fluent in English and Italian.

Selected Publications (full list available at http://srg.cs.illinois.edu/~mmontan2)

Mirko Montanari, Lucas T. Cook, Roy Campbell, "**Multi-organization Policy-Compliance Monitoring**," IEEE International Symposium on Policies for Distributed Systems and Networks (IEEE POLICY 2012), July 2012.

Mirko Montanari, Roy Campbell, "**Confidentiality of Event Data in Policy-based Monitoring**," IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2012), June 2012.

Mirko Montanari, Jun Ho Huh, Derek Dagit, Rakesh Bobba and Roy H. Campbell, "**Evidence of Log Integrity in Policy-based Security Monitoring**," Workshop on Dependability of Clouds, Data Centers and Virtual Machine Technology (DCDV), July 2012

Roy H. Campbell, *Mirko Montanari*, Reza Farivar, "**Middleware for Assured Clouds**," Journal of Internet Services and Applications, 2011

Mirko Montanari, Ellick Chan, Kevin Larson, Wucherl Yoo, and Roy H. Campbell, "**Distributed Security Policy Conformance,**" IFIP SEC 2011, Lucerne, Switzerland*,* June 2011 (selected as one of the *best papers*)