

Daniel Ricardo dos Santos, PhD

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EDUCATION	University of Trento (UNITN), Italy	
	PhD. in Information and Communication Technology	11/2013 - 03/2017
	Federal University of Santa Catarina (UFSC), Brazil	
	MSc. in Computer Science	10/2011 - 08/2013
	BSc. in Computer Science	03/2007 - 07/2011
WORK EXPERIENCE	Eindhoven University of Technology (TU/e) - Eindhoven, The Netherlands	
	<i>Researcher (post-doc)</i>	04/2017 - Current
	<ul style="list-style-type: none">Design and development of intrusion detection systems (CITADEL European research project).	
	Fondazione Bruno Kessler (FBK) - Trento, Italy	
	<i>Early Stage Researcher</i>	09/2013 - 03/2017
	<ul style="list-style-type: none">Designed and developed techniques and tools based on formal methods for security enforcement of workflow-driven applications and web applications (SECENTIS European Industrial Doctorate project).Security analysis and testing of Android and web applications, in collaboration with the PostItaliane Cyber Security Innovation lab.	
	SAP Labs (FBK collaboration) - Sophia Antipolis, France	
	<i>Early Stage Researcher</i>	02-06/2014; 04-06/2015; 11/2015 - 06/2016
	<ul style="list-style-type: none">Designed and developed a tool to test web application exploits in multiple environments, using Selenium and Docker.Integrated research prototypes for run-time workflow monitoring into SAP platforms.	
	SecPlus - Florianópolis, Brazil	
	<i>Information Security Consultant</i>	10/2012 - 07/2013
	<ul style="list-style-type: none">Conducted penetration testing and security assessments for several companies.Contributed to open source projects for the analysis of Linux malware and for secure development in PHP.	
	AltoQi - Florianópolis, Brazil	
	<i>C++ developer</i>	10/2011 - 04/2012
	<ul style="list-style-type: none">Implemented parts of the graphics and database modules of QiBuilder, a CAD software for civil engineering, using the Windows API and SQLite.Worked as part of a Scrum team using agile methodology.	
	Networks and Management Laboratory, UFSC - Florianópolis, Brazil	
	<i>Research Assistant</i>	07/2010 - 07/2011; 04/2012 - 07/2013
	<ul style="list-style-type: none">Implemented identity management, access control, and security monitoring systems for cloud computing, using technologies such as SAML, OpenStack, and Nessus.	

SKILLS	Programming languages: Python, Java, C/C++, PHP, JavaScript. Technical expertise: Agile methodology (TDD, Scrum, XP), Linux/UNIX systems, databases (MySQL, HANA, SQLite), version control (SVN, Git), penetration testing (network, web, and mobile), formal methods (model checking, SMT). Soft skills: Quick learner with good communication skills (verbal and written). Capable of working independently and in teams. Efficient project manager. Languages: Portuguese (Native), English (Fluent), Italian (Intermediate).	
FURTHER EDUCATION	Summer/Winter Schools: European Summer School in Logic, Language, and Information2016 SECENTIS Winter School - Security of Enterprise Information Systems2016 IEEE Italy Section School of Career Boosting2015 Marktoberdorf Summer School - Dependable Software Systems Engineering2014 UFSC Mathematics Summer School - Axiomatic Set Theory, Real Analysis2011 Online: Machine Learning (Coursera - Andrew Ng, Stanford)2015	
AWARDS	Best Student Paper (DBSec Conference)	2015
OTHER INTERESTS	Martial arts: Wado-ryu Karate black belt (1st dan) Volunteering: Boy Scout leader (2010-2013)	

List of publications (citations: 128, h-index: 6)

JOURNALS

- J1. **D.R. dos Santos**, S. Ranise, L. Compagna, S.E. Ponta. “*Automatically Finding Execution Scenarios to Deploy Security-Sensitive Workflows*” in Journal of Computer Security (In press)
- J2. **D.R. dos Santos**, R. Marinho, G.R. Schmitt, C.M. Westphall, C.B. Westphall. “*A Framework and Risk Assessment Approaches for Risk-based Access Control in the Cloud*” in Journal of Network and Computer Applications, vol. 74, October, 2016
- J3. E.A. Rigon, C.M. Westphall, **D.R. dos Santos**, C.B. Westphall. “*A Cyclical Evaluation Model of Information Security Maturity*” in Information Management and Computer Security, vol. 22, no. 3, 2014
- J4. **D.R. dos Santos**, T.J. Nascimento, C.M. Westphall, M.A.P Leandro, C.B. Westphall. “*Privacy-preserving identity federations in the cloud: a proof of concept*” in International Journal of Security and Networks, vol. 9, no. 1, 2014
- J5. C.B. Westphall, C.M. Westphall, F.L. Koch, G.A. Geronimo, J. Werner, R.S. Mendes, P.F. Silva, **D.R. dos Santos**, R.F. Souza, M.M. Mattos, S.R. Villareal, R. Weingartner, L. Defenti, A.A. Flores, R.R. Freitas, G.B. Brascher. “*Operation, Management, Security and Sustainability for Cloud Computing*” in Revista de Sistemas de Informação da FSMA, vol. 2014, no. 13, 2014
- J6. R.F. de Souza, C.B. Westphall, **D.R. dos Santos**, C.M. Westphall. “*A Review of PACS on Cloud for Archiving Secure Medical Images*” in International Journal of Privacy and Health Information Management, vol. 1, no. 1, 2013

CONFERENCES AND WORKSHOPS

- C1. L. Compagna, **D.R. dos Santos**, S.E. Ponta, S. Ranise. “*Aegis: Automatic Enforcement of Security Policies in Workflow-driven Web Applications*” in Proceedings of the 7th ACM Conference on Data and Applications Security and Privacy (CODASPY), 2017
- C2. **D.R. dos Santos**, S.E. Ponta, S. Ranise. “*Modular Synthesis of Enforcement Mechanisms for the Workflow Satisfiability Problem: Scalability and Reusability*” in Proceedings of the 21st ACM Symposium on Access Control Models and Technologies (SACMAT), 2016
- C3. L. Compagna, **D.R. dos Santos**, S.E. Ponta, S. Ranise. “*Cerberus: Automated Synthesis of Enforcement Mechanisms for Security-sensitive Business Processes*” in Proceedings of the 22nd International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 2016
- C4. **D.R. dos Santos**, S. Ranise, L. Compagna, S.E. Ponta. “*Assisting the Deployment of Security-Sensitive Workflows by Finding Execution Scenarios*” in Proceedings of the 29th Annual IFIP WG 11.3 Conference on Data and Applications Security and Privacy (DBSec), 2015
- C5. C. Bertolissi, **D.R. dos Santos**, S. Ranise. “*Automated Synthesis of Run-time Monitors to Enforce Authorization Policies in Business Processes*” in Proceedings of the 10th ACM Symposium on Information, Computer and Communications Security (ASIACCS), 2015
- C6. S. Dashevskiy, **D.R. dos Santos**, F. Massacci, A. Sabetta. “*TESTREX: a Testbed for Repeatable Exploits*” in Proceedings of the 7th Workshop on Cyber Security Experimentation and Test (CSET), 2014
- C7. P.A.F. Vitti, **D.R. dos Santos**, C.B. Westphall, C.M. Westphall, K.M.M. Vieira. “*Current Issues in Cloud Computing Security and Management*” in Proceedings of the 8th International Conference on Emerging Security Information, Systems and Technologies (SECURWARE), 2014
- C8. **D.R. dos Santos**, C.M. Westphall, C.B. Westphall. “*A dynamic risk-based access control architecture for cloud computing*” in Proceedings of the IEEE/IFIP Network Operations and Management Symposium (NOMS), 2014

- C9. P. Silva, C.B. Westphall, C.M. Westphall M. Mattos, **D.R. dos Santos**. “An Architecture for Risk Analysis in Cloud” in Proceedings of the 10th International Conference on Networking and Services (ICNS), 2014
- C10. **D.R. dos Santos**, C.M. Westphall, C.B. Westphall. “*Risk-based Dynamic Access Control for a Highly Scalable Cloud Federation*” in Proceedings of the 7th International Conference on Emerging Security Information, Systems and Technologies (SECURWARE), 2013
- C11. R.F. de Souza, C.B. Westphall, **D.R. dos Santos**, C.M. Westphall. “*Challenges of Operationalizing PACS on Cloud Over Wireless Networks*” in Proceedings of the 9th International Conference on Wireless and Mobile Communications (ICWMC), 2013
- C12. R.B. Brinhosa, C.M. Westphall, C.B. Westphall, **D.R. dos Santos**, F. Grezele. “*A Validation Model of Data Input for Web Services*” in Proceedings of the 12th International Conference on Networks (ICN), 2013
- C13. M.A.P. Leandro, T.J. Nascimento, **D.R. dos Santos**, C.M. Westphall, C.B. Westphall. “*Multi-Tenancy Authorization System with Federated Identity for Cloud-Based Environments Using Shibboleth*” in Proceedings of the 11th International Conference on Networks (ICN), 2012
- C14. **D.R. dos Santos**, C.M. Westphall, “*Uma aplicação de privacidade no gerenciamento de identidades em nuvem com uApprove*” in Workshop de Trabalhos de Iniciação Científica e Graduação (WTICG), Anais do Simpósio Brasileiro em Segurança da Informação e de Sistemas Computacionais (SBSEG), 2011

THESES

- T1. **D.R. dos Santos**, “*Automatic Techniques for the Synthesis and Assisted Deployment of Security Policies in Workflow-based Applications*”, PhD. thesis, University of Trento, 2017
- T2. **D.R. dos Santos**, “*Uma Arquitetura de Controle de Acesso Dinâmico Baseado em Risco para Computação em Nuvem*”, MSc. thesis, Federal University of Santa Catarina, 2013
- T3. **D.R. dos Santos**, “*Gerenciamento de Identidades e Privacidade em Ambientes de Computação em Nuvem*”, BSc. thesis, Federal University of Santa Catarina, 2011

PATENTS

- P1. S.E. Ponta, L. Compagna, **D.R. dos Santos**, S. Ranise, “*Secure and Compliant Execution of Processes*”. Filed on 13/04/2016 (under USPTO review)
- P2. A. Sabetta, L. Compagna, S.E. Ponta, S. Dashevskiy, **D.R. dos Santos**, F. Massacci. “*Multi-context Exploit Test Management*”. United States Patent 20160314302

VULNERABILITIES

- V1. CVE-2013-2618, Network Weathermap 0.97a Cross Site Scripting
- V2. CVE-2013-2619, Aspen 0.8 Directory Traversal

Academic activities

SCIENTIFIC AND PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none">• Association for Computing Machinery (ACM) 2015 - Current• IFIP Data and Applications Security and Privacy (WG11.3) 2015 - Current• Joint Conferences on Theory and Practice of Software (ETAPS) 2016 - Current• IEEE Communications Society (ComSoc) 2014 - 2015
RESEARCH PROJECTS	<ul style="list-style-type: none">• CITADEL - Critical Infrastructure Protection Using Adaptive MILS 2017-2019• SECENTIS - Security and Trust of Next Gen. Enterprise Inf. Systems 2013-2016• AutoMan&Sec4Cloud - Autonomic Management and Security for Cloud 2013• GESCONGRECO - Gerência e Segurança para Computação em Nuvem, Grade e Redes Cognitivas 2010-2013
TEACHING ASSISTANCE	<ul style="list-style-type: none">• Applied Security - Offensive Technologies (MSc.) - UNITN, Italy 2014• Operating Systems (BSc.) - UFSC, Brazil 2013• Computer Networks (BSc.) - UFSC, Brazil 2013
REVIEWER FOR JOURNALS	<ul style="list-style-type: none">• Computer Networks• Journal of Networks and Systems Management• Security and Communication Networks
EXTERNAL REVIEWER FOR CONFERENCES	<ul style="list-style-type: none">• 11th International Workshop on Data Privacy Management (DPM 2016)• 11th International Workshop on Security and Trust Management (STM 2015)• 29th IFIP Conference on Data and Applications Security and Privacy (DBSec 2015)
MEMBER OF THESIS COMMITTEES	<ul style="list-style-type: none">• Gustavo Roecker Schmitt, “<i>Utilização do Modelo de Controle de Acesso RAdAC (Risk-Adaptive Access Control) em um Ambiente de Computação em Nuvem</i>”, BSc. thesis, Federal University of Santa Catarina, 2014.• Max Alexandre Zanelato, “<i>Proposta de um modelo de biblioteca cliente para o Shibboleth: Facilitando a adaptação das aplicações</i>”, BSc. thesis, Federal University of Santa Catarina, 2014.