

# Daniel Ricardo dos Santos, PhD

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WORK EXPERIENCE	<b>Eindhoven University of Technology</b> <i>Researcher</i> <ul style="list-style-type: none"><li>Designed and developed network intrusion detection systems for cyber-physical systems (industrial control and building automation).</li></ul>	Eindhoven, Netherlands Apr/2017 - Current
	<b>Fondazione Bruno Kessler &amp; SAP Labs</b> <i>Researcher</i> <ul style="list-style-type: none"><li>Designed and developed tools for security testing and policy enforcement in workflows and web applications.</li><li>Integrated research prototypes into SAP platforms.</li><li>Conducted security assessments of web applications and Android applications.</li></ul>	Trento, Italy Sophia Antipolis, France Sep/2013 - Mar/2017
	<b>SecPlus</b> <i>Security consultant</i> <ul style="list-style-type: none"><li>Conducted security assessments of web applications and infrastructures.</li><li>Contributed to open source projects for the analysis of Linux malware and for secure development in PHP.</li></ul>	Florianópolis, Brazil Oct/2012 - Jul/2013
	<b>AltoQi</b> <i>Software engineer (C++)</i> <ul style="list-style-type: none"><li>Implemented parts of the graphics and database modules of a CAD software for civil engineering.</li></ul>	Florianópolis, Brazil Oct/2011 - Apr/2012
EDUCATION	PhD. in Computer Science - <b>University of Trento</b> , Italy MSc. in Computer Science - <b>Federal University of Santa Catarina</b> , Brazil BSc. in Computer Science - <b>Federal University of Santa Catarina</b> , Brazil	2017 2013 2011
PROGRAMMING	Python, Java, C/C++, PHP, JavaScript.	
LANGUAGES	Portuguese (Native), English (Fluent), Italian (Basic).	

## Academic activities

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TEACHING ASSISTANCE	Computer Networks and Security (BSc., TU Eindhoven)	2018
	Offensive Security (MSc., University of Trento)	2014
	Operating Systems (BSc., Federal University of Santa Catarina)	2013
	Computer Networks (BSc., Federal University of Santa Catarina)	2013
RESEARCH PROJECTS	Critical Infrastructure Protection Using Adaptive MILS	2017 - 2018
	Security and Trust of Next Gen. Enterprise Information Systems	2013 - 2016
	Autonomic Management and Security for Cloud Computing	2010 - 2013

## List of publications

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JOURNAL ARTICLES	J1. S. Dashevskyi, <b>D.R. dos Santos</b> , F. Massacci, A. Sabetta. “ <i>TestREx: a Framework for Repeatable Exploits</i> ” in International Journal on Software Tools for Technology Transfer, 2017
	J2. <b>D.R. dos Santos</b> , S. Ranise, L. Compagna, S.E. Ponta. “ <i>Automatically Finding Execution Scenarios to Deploy Security-Sensitive Workflows</i> ” in Journal of Computer Security, vol. 25, no. 3, 2017
	J3. <b>D.R. dos Santos</b> , R. Marinho, G.R. Schmitt, C.M. Westphall, C.B. Westphall. “ <i>A Framework and Risk Assessment Approaches for Risk-based Access Control in the Cloud</i> ” in Journal of Network and Computer Applications, vol. 74, 2016
	J4. E.A. Rigon, C.M. Westphall, <b>D.R. dos Santos</b> , C.B. Westphall. “ <i>A Cyclical Evaluation Model of Information Security Maturity</i> ” in Information Management and Computer Security, vol. 22, no. 3, 2014
	J5. <b>D.R. dos Santos</b> , T.J. Nascimento, C.M. Westphall, M.A.P. Leandro, C.B. Westphall. “ <i>Privacy-preserving identity federations in the cloud: a proof of concept</i> ” in International Journal of Security and Networks, vol. 9, no. 1, 2014
	J6. C.B. Westphall, C.M. Westphall, F.L. Koch, G.A. Geronimo, J. Werner, R.S. Mendes, P.F. Silva, <b>D.R. dos Santos</b> , R.F. Souza, M.M. Mattos, S.R. Villareal, R. Weingartner, L. Defenti, A.A. Flores, R.R. Freitas, G.B. Brascher. “ <i>Operation, Management, Security and Sustainability for Cloud Computing</i> ” in Revista de Sistemas de Informação da FSMA, vol. 2014, no. 13, 2014
	J7. R.F. de Souza, C.B. Westphall, <b>D.R. dos Santos</b> , C.M. Westphall. “ <i>A Review of PACS on Cloud for Archiving Secure Medical Images</i> ” in International Journal of Privacy and Health Information Management, vol. 1, no. 1, 2013
CONFERENCE AND WORKSHOP PAPERS	C1. D. Fauri, <b>D.R. dos Santos</b> , E. Costante, J. den Hartog, S. Etalle, S. Tonetta. “ <i>From System Specification to Anomaly Detection (and back)</i> ” in 3rd ACM Workshop on Cyber-Physical Systems Security & Privacy (CPS-SPC), Proceedings of the ACM Conference on Computer and Communications Security (CCS), 2017
	C2. <b>D.R. dos Santos</b> , S. Ranise. “ <i>On Run-time Enforcement of Authorization Constraints in Security-Sensitive Business Processes</i> ” in Proceedings of the 15th International Conference on Software Engineering and Formal Methods (SEFM), 2017
	C3. L. Compagna, <b>D.R. dos Santos</b> , S.E. Ponta, S. Ranise. “ <i>Aegis: Automatic Enforcement of Security Policies in Workflow-driven Web Applications</i> ” in Proceedings of the 7th ACM Conference on Data and Applications Security and Privacy (CODASPY), 2017

- C4. **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
- C5. 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
- C6. **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. **Best Student Paper Award**
- C7. 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
- C8. S. Dashevskiy, **D.R. dos Santos**, F. Massacci, A. Sabetta. “*TestREx: a Testbed for Repeatable Exploits*” in 7th Workshop on Cyber Security Experimentation and Test (CSET), Proceedings of the 23rd USENIX Security Symposium, 2014
- C9. 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
- C10. **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
- C11. 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
- C12. **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
- C13. 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
- C14. 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
- C15. 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
- C16. **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
- 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

TECHNICAL  
REPORTS

- R1. **D.R. dos Santos**, S. Ranise. “*A Survey on Workflow Satisfiability, Resiliency, and Related Problems*”, arXiv, 2017

PATENTS

- P1. S.E. Ponta, L. Compagna, **D.R. dos Santos**, S. Ranise, “*Secure and Compliant Execution of Processes*”. US Patent Application 20170300701
- P2. A. Sabetta, L. Compagna, S.E. Ponta, S. Dashevskyi, **D.R. dos Santos**, F. Massacci. “*Multi-context Exploit Test Management*”. US Patent 9811668

VULNERABILITIES

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