Igor Santos

Last update: September 2, 2020

Personal Data

Name	Igor Santos
Date of Birth	May 13, 1985
Place of Birth	Barakaldo, Spain
Citizenship	Spanish

Contact Information

Office	Faculty of Engineering
	Mondragon University
	Goiru 2, 20500 Arrasate–Mondragon, Spain
Email	isantos@mondragon.edu
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Research Interests

My research interests include most of the aspects of the System Security research area. In particular, I work on:

- Program Analysis
  - Operating System Security
  - Binary & Malware Analysis
  - Vulnerability Analysis
  - Reverse Engineering

- Web Security
  - Web Tracking
  - Privacy-Preserving Methods
  - Web Vulnerabilities
  - Malicious Cloaking & Hiding
  - Web Malware & Fraud

My detailed research agenda of is available upon request.

Research Activity Indicators

Indicators according to Google Scholar at September 2, 2020:

Number of citations	2,736
h-index	24
i10-index	48
Source:	https://scholar.google.com/citations?user=ieVO6-kAAAAJ

Positions

March 2020 –	Lecturer/Researcher
	Faculty of Engineering, Mondragon University, Spain

Past Positions

January 2012 – February 2020	Researcher & Project Manager
	DeustoTech, University of Deusto, Spain
October 2011 – February 2020	Assistant Professor
	Faculty of Engineering, University of Deusto, Spain
May 2013 – December 2014	Head Researcher & Director
	DT - Computing Research Unit
	DeustoTech, University of Deusto, Spain
October 2009 – September 2011	Adjunct Professor
	Faculty of Engineering, University of Deusto, Spain
October 2007 – December 2011	Research Assistant
	DeustoTech, University of Deusto, Spain

Research Visits

July 2016, 12th – August 2016	Visiting Research Professor
	Research in Web Tracking and Security
	Carnegie Mellon University (CMU), PA, USA

Education

– **Ph.D. Degree in Computer Science**

University of Deusto, Spain – October 27, 2011

Dissertation Title: "New Approaches for Malware Detection based on Information Retrieval"

Advisor: Prof. Pablo G. Bringas

Grade: Excellent *"Cum Laude"*

– **M.Sc Degree in System Security**

University of Deusto, Spain – June 2011

Final Project: "Contributions to Malware Detection"

Advisor: Prof. Pablo G. Bringas

Grade: 10/10

- **Computer Engineering Degree (equivalent to M.Sc)**

  University of Deusto, Spain – 2007.

  Final Project: "IMUSH: A Secure P2P Music Streaming Service".

  Grade: "Notable" (equivalent to 8/10)

Publications

Journal Papers

[J.24] I. Sanchez-Rola, X. Ugarte Pedrero, **I. Santos**, P.G. Bringas. *The Web is Watching You: A Comprehensive Review of Web Tracking Techniques and Countermeasures*. Logic Journal of IGPL vol 25 n 1 (Special Issue CISIS 2015), 18-29. ISSN (online): 1368-9894, ISSN (print) 1367-0751. IF: 0.461 (JCR 2014) - 12/21 in LOGIC - Q3

[J.23] I. García-Ferreira, C. Laorden, *I. Santos*, P.G. Bringas. *A survey on static analysis and model checking*. Logic Journal of IGPL vol 24, n 6 (Special Issue CISIS 2014), pp. 871–882. ISSN (online): 1368-9894, ISSN (print) 1367-0751. IF: 0.461 (JCR 2014) - 12/21 in LOGIC - Q3

[J.22] J. de-la-Peña-Sordo, I. Pastor-López, X. Ugarte-Pedrero, **I Santos**, P.G. Bringas. *Anomaly-based user comments detection in social news websites using troll user comments as normality representation*. Logic Journal of IGPL vol 24, n 6 (Special Issue CISIS 2014), pp 883–898. ISSN (online): 1368-9894, ISSN (print) 1367-0751. IF: 0.461 (JCR 2014) - 12/21 in LOGIC - Q3

[J.21] T.A. Almeida, T.P. Silva, **I. Santos**, J.M. Gomez-Hidalgo. *Text Normalization and Semantic Indexing to Enhance Instant Messaging*. Knowledge-Based Systems vol 108, pp. 25-32. 2016. ISSN (online): 1368-9894, ISSN (print) 1367-0751. DOI: 10.1016/j.knosys.2016.05.001 IF (JCR 2014): 2.947 - 16/123 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - Q1

[J.20] P. Galán-García, J. Gaviria de la Puerta, C. Laorden, **I. Santos**, P.G. Bringas *Supervised machine learning for the detection of troll profiles in twitter social network: application to a real case of cyberbullying*. Logic Journal of IGPL (2015) 24 (1): pp. 42-53. ISSN (online): 1368-9894, ISSN (print) 1367-0751. IF: 0.461 (JCR 2014) - 12/21 in LOGIC - Q3

[J.19] C. Laorden, P. Galán-García, **I. Santos**, B. Sanz, J. Nieves, P.G. Bringas, Jose María Gómez-Hidalgo *Negobot: Detecting paedophile activity with a conversational agent based on game theorys*. Logic Journal of IGPL (2015) 23 (1): pp. 17-30. ISSN (online): 1368-9894, ISSN (print) 1367-0751. IF: 0.461 (JCR 2014) - 12/21 in LOGIC - Q3

[J.18] C. Laorden, X. Ugarte-Pedrero, **I. Santos**, B. Sanz, J. Nieves, P.G. Bringas *Study on the effectiveness of anomaly detection for spam filtering*. Information Sciences, Volume 277, 1 September 2014, pp 421–444, ISSN: 0020-0255, IF: 3,643 (JCR) - 6/132 in COMPUTER SCIENCE, INFORMATION SYSTEMS - Q1

[J.17] A. Santamaría-Ibirika, X. Cantero, M. Salazar, J. Devesa, **I. Santos**, S. Huerta, P.G. Bringas *Procedural approach to volumetric terrain generation*. The Visual Computer September 2014,

Volume 30, Issue 9, pp 997-1007, ISSN: 0178-2789, IF: 1.07 (JCR) - 46/105 in COMPUTER SCIENCE, SOFTWARE ENGINEERING - Q2

[J.16] X. Ugarte-Pedrero, **I. Santos**, I. García-Ferreira, S. Huerta, B. Sanz, P.G. Bringas *On the adoption of anomaly detection for packed executable filtering*. Computers and Security Volume 43, June 2014, Pages 126–144, ISSN: 0167-4048, IF: 1.07 (JCR) 1.172 - 59/135 in COMPUTER SCIENCE, INFORMATION SYSTEMS - Q2

[J.15] I. Pastor-López, J. de-la-Peña-Sordo, S. Rojas, **I. Santos**, P.G. Bringas *Machine vision for surface defects categorisation in foundries based on machine learning*. DYNA-Ingeniería e Industria Volume 8, n 3, pages 325–332. IF: 0.20 (JCR) 1.172 - 82/87 in ENGINEERING MULTI-DICIPLINARY- Q4

[J.14] **I. Santos**, C. Laorden, B. Sanz and P.G. Bringas *Reversing the Effects of Tokenisation Attacks against Content-Based Spam Filters*. International Journal of Security and Networks (IJSN), v 8 n 2, pages 106-116, ISSN (online): 1747-8413, ISSN (print): 1747-8405. SJR: 0,186 (SCOPUS 2011) - 59/82 en Safety, Risk, Reliability and Quality- Q3

[J.13] B. Sanz, **I. Santos**, C. Laorden, X. Ugarte-Pedrero, J. Nieves, P.G. Bringas y G. Alvarez *MAMA: Manifest Analysis for Malware Detection in Android*. Cybernetics and Systems: An International Journal, v 44 n 6-7, pages 469-488 ISSN (online): 1087-6553, ISSN (Print): 0196-9722. IF: 0,973 (JCR 2012) - 14/21 in COMPUTER SCIENCE, CYBERNETICS - Q3

[J.12] J. Nieves, **I. Santos** and P.G. Bringas *Utilización de algoritmos de meta-clasificación para la mejora de los Modelos Predictivos de Control*. Revista Dyna, v 88 n 3, pages 291-299. ISSN (online): 0012-7361, ISSN (print): 1989-1490. IF: 0,237 (JCR) - 81/90 in ENGINEERING, MULTIDISCIPLINARY - Q4

[J.11] **I. Santos**, F. Brezo, X. Ugarte-Pedrero and P.G. Bringas *Opcode Sequences as Representation of Executables for Data-mining-based Unknown Malware Detection*. Information Sciences, v 231, pages 64 - 82, ISSN: 0020-0255, 2013. IF: 3,643 (JCR) - 6/132 in COMPUTER SCIENCE, INFORMATION SYSTEMS - Q1

[J.10] C. Laorden, B. Sanz, **I. Santos**, P. Galán-García and P.G. Bringas *Collective Classification for Spam Filtering*. Logic Journal of the IGPL, v 21, n 4, pages 540-548, ISSN (online): 1368-9894, ISSN (print) 1367-0751. IF: 1,136 (JCR) - 1/19 in LOGIC - Q1

[J.9] X. Ugarte-Pedrero, **I. Santos**, C. Laorden, B. Sanz, and P.G. Bringas *Collective Classification for Packed Executable Identification*. Computer Systems Science & Engineering, v 28 n 1, pages 25-36, ISSN: 0267-6192. ISSN. 0267-6192 IF: 0,076 (JCR) - 100/100 in COMPUTER SCIENCE, THEORY & METHODS - Q4

[J.8] **I. Santos**, X. Ugarte-Pedrero, F. Brezo, P.G. Bringas y J.M. Gómez-Hidalgo *NOA: An Information Retrieval Based Malware Detection System*. *Computing And Informatics*, v 32, pages 145-174, ISSN: 1335-9150, 2013. IF: 0,254 (JCR 2012) - 108/114 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - Q4

[J.7] B. Sanz, J. Nieves, C. Laorden, **I. Santos** and P.G. Bringas *BUSCADORES ON-LINE: de la recuperación de la información a la generación del conocimiento*. Revista Dyna, vol. 88 n 4 pp. 392-394, ISSN (online): 0012-7361, ISSN (print): 1989-1490, IF: 0.237 (JCR 2012) - 81/90 in ENGINEERING, MULTIDISCIPLINARY - Q4

[J.6] **I. Santos**, J. de-la-Peña-Sordo, I. Pastor-López, P. Galán-García and P.G. Bringas *Automatic Categorisation of Comments in Social News Websites.* Expert Systems With Applications, v 39 n 18, pages 13417–13425, 2012. ISSN: 0957-4174. IF: 1,854(JCR 2012) - 13/78 en OPERATIONS RESEARCH & MANAGEMENT SCIENCE - Q1

[J.5] C. Laorden, **I. Santos**, B. Sanz, G. Álvarez, P.G. Bringas *Word Sense Disambiguation for Spam Filtering.* Electronic Commerce Research and Applications, v 11, n 3, pages 290–298, 2012, ISSN: 1567-4223. IF: 1,472 (JCR 2012) - 37/132 in COMPUTER SCIENCE, INFORMATION SYSTEMS - Q2

[J.4] **I. Santos**, C. Laorden, B. Sanz and P.G. Bringas *Enhanced Topic-based Vector Space Model for Semantics-aware Spam Filtering.* Expert Systems With Applications, v 39 n 1, pages 437-444, 2012, ISSN: 0957-4174. IF: 1,854(JCR 2012) - 13/78 en OPERATIONS RESEARCH & MANAGEMENT SCIENCE - Q1

[J.3] J. Nieves, B. Sanz, C. Laorden, *I. Santos*, P.G. Bringas, and A. Perallos *Hacia una sociedad inteligente basada en la Internet de la Cosas.* Revista Dyna, v 86 n 4, pp 386-388 ISSN (online): 0012-7361, ISSN (print): 1989-1490 IF: 0.237 (JCR 2012) - 81/90 in ENGINEERING, MULTIDISCIPLINARY - Q4

[J.2] **I. Santos**, F. Brezo, B. Sanz, C. Laorden and P.G. Bringas *Using Opcode Sequences in Single-Class Learning to Detect Unknown Malware.* IET Information Security, v 5 n 4, pages 220–227, 2011. ISSN (print): 1751-8709, ISSN (online):1751-8717. IF: 0,143 (JCR 2011) - 131/133 in COMPUTER SCIENCE, INFORMATION SYSTEMS - Q4

[J.1] J. Nieves, **I. Santos** and P.G. Bringas *Model Predictive Control on High Precision Foundries, a New Approach for the Prediction Phase.* Revista de Metalurgia, v 47 n 4, pages 197-204, ISSN (print): 0034-8570, ISSN (online): 1988-4222. IF: 0,202 (JCR 2011) - 63/75 en METALLURGY & METALLURGICAL ENGINEERING - Q4

Edited Journal Special Issues

[EJ.2] P.G. Bringas, **I. Santos**, E. Onieva, E. Osaba, H. Quintian, E. Corchado

Special issue HAIS 2015: Recent advancements in hybrid artificial intelligence systems and its application to real-world problems NeuroComputing, vol 326, 69-70.

[EJ.1] P.G. Bringas, **I. Santos**, E. Onieva, E. Osaba, H. Quintian, E. Corchado

Special Issue HAIS15-IGPL Logic Journal of the IGPL, 2017, Vol. 25 No. 6.

Edited Proceedings

[EP.1] E. Onieva, **I. Santos**, E. Osaba, H. Quintián, E. Corchado *Hybrid Artificial Intelligent Systems* 10th International Conference, HAIS 2015, Bilbao, Spain, June 22-24, 2015. ISBN: 978-3-319-19643-5 (Print) 978-3-319-19644-2 (Online)

Book Chapters

[B.3] **I. Santos**, C. Laorden, X. Ugarte, B. Sanz and P.G. Bringas *Spam Filtering through Anomaly Detection.* Part IV: Security and Cryptography. E-Business and Telecommunications, v 314, pages 203-216, ISBN (online): 978-3-642-35755-8, ISBN (print): 978-3-642-35754-1.

[B.2] P.G. Bringas and **I. Santos** *Bayesian Networks for Network Intrusion Detection.* Bayesian Network, Ahmed Rebai (Ed.), ISBN: 978-953-307-124-4, Sciyo, pp. 229–244,

[B.1] *I. Santos*, J. Nieves, P.G. Bringas and Y.K. Penya *Machine-Learning-Based Defect Prediction in High-Precision Foundry Production.* Structural Steel and Castings: Shapes and Standards, Properties and Applications, Lena M. Becker (Ed.), ISBN: 978-1-61728-104-4, Nova Science Publishers, pp. 259-276.

Conferences

[C.76] I. Sanchez-Rola, D. Balzarotti C. Kruegel, G. Vigna, **I. Santos** *Dirty Clicks: A Study of the Usability and Security Implications of Click-related Behaviors on the Web* Proceedings of the International World Wide Web Conference (WWW), Tapei, China 2020 (acceptance rate: 19.2%) **Top-tier Conference. CORE A***

[C.75] I. Sanchez-Rola, D. Balzarotti, **I. Santos** *BakingTimer: Privacy Analysis of Server-Side Request Processing Time* Proceedings of the Annual Computer Security Applications Conference (AC-SAC), San Juan, Puerto Rico, US, 2019 (acceptance rate: 22.6%) **Top-tier System Security Conference. CORE A**

[C.74] I. Sanchez-Rola, M. Dell'Amico, P. Kotzias, D. Balzarotti, L. Bilge, P. Vervier, **I. Santos** *Can I Opt Out Yet? GDPR and the Global Illusion of Cookie Control* Proceedings of the ACM Asia Conference on Computer and Communications Security (ASIACCS), Auckland, New Zeland, 2019 (acceptance rate: 17.0(acceptance rate: 17%) **Tier-2 System Security Conference.**

[C.73] I. Sanchez-Rola, **I. Santos**, D. Balzarotti *Clock Around the Clock: Time-Based Device Fingerprinting* Proceedings of the 25th ACM Conference on Computer and Communications Security (CCS). Toronto, Canada, 2018. (acceptance rate: 16.6%) **Top-tier System Security Conference. CORE A***

Media coverage: New Scientist | Metro | TechNews | ...

[C.72] I. Sanchez-Rola, **I. Santos**. *Knockin' on Trackers' Door: Large-Scale Automatic Analysis of Web Tracking* Proceedings of the 15th Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA). Saclay, France, 2018. (acceptance rate: 35.29%) **TIER 2 System Security Conference**

[C.71] I. Sanchez-Rola, **I. Santos**, D. Balzarotti *Extension Breakdown: Security Analysis of Browsers Extension Resources Control Policies* Proceedings of the 26th Usenix Security Symposium (Sec), Vancouver, Canada, 2017 (acceptance rate: 16.28**Top-tier System Security Conference. CORE A***

Media coverage: SecurityWeek | BleepingComputer | Ghacks(1) | Ghacks(2) | FayerMayer |...

[C.70] I. Sanchez-Rola, Davide Balzarotti, **I. Santos**. *The Onions Have Eyes: A Comprehensive Structure and Privacy Analysis of the Tor Hidden Services* Proceedings of the World Wide Web Conference (WWW). Perth, Australia. 2017. (Acceptance rate: 16.9%)**Top Tier Conference. CORE A***

Media coverage: New Scientist | Daily Mail | DeepDotWeb | Jornal Ciencia |...

[C.69] I. Díez-Franco, **I. Santos**. *Data is Flowing in the Wind: A Review of Data-Flow Integrity Methods to Overcome Non-Control-Data Attacks.* Proceedings of the 9th International Conference

on Computational Intelligence in Security for Information Systems (CISIS). Donostia-San Sebastián, Spain. 2016. **CORE B**

[C.68] I. Díez-Franco, **I. Santos**. *Feel me Flow: A Review of Control-Flow Integrity Methods for User and Kernel Space*. Proceedings of the 9th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Donostia-San Sebastián, Spain. 2016. **CORE B**

[C.67] X. Ugarte-Pedrero, D. Balzarotti, **I. Santos**, P.G. Bringas. *RAMBO: Run-time packer Analysis with Multiple Branch Observation*. Proceedings of the 13th Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIVMA). San Sebastián, Spain. 2016. (acceptance rate: 31.8%). **TIER 2 System Security Conference**

[C.66] I. Androulidakis, S. Huerta, V. Vlachos, **I. Santos**. *Epidemic Model for Malware Targeting Telephony Networks*. Proceedings of the 23rd International Conference on Telecommunications (ICT). Thessalonica, Greece. 2016.

[C.65] J. Gaviria de la Puerta, B. Sanz, **I. Santos**, P.G. Bringas. *Using Dalvik Opcodes for Malware Detection on Android*. Proceedings of the Hybrid Artificial Intelligent Systems 2015. Lecture Notes in Computer Science vol 9121, pp 416-426. ISBN: 978-3-319-19643-5. **CORE C**

[C.64] J. Gaviria de la Puerta, B. Sanz, **I. Santos**, P.G. Bringas. *The Evolution of Permission as Feature for Android Malware Detection*. Proceedings of the International Joint Conference CISIS-SOCO-ICEUTE 2015. Lecture Notes in Computer Science vol 9121, pp 416-426. ISBN: 978-3-319-19643-5. **CORE B**

[C.63] I. Sánchez-Rola, X. Ugarte-Pedrero, **I. Santos**, P.G. Bringas. *Tracking Users Like There is No Tomorrow: Privacy on the Current Internet*. Proceedings of the International Joint Conference CISIS-SOCO-ICEUTE. Advances in Intelligent Systems and Computing vol. 369 pp 473-483. ISBN: 978-3-319-19712-8. **CORE B**

[C.62] X. Ugarte-Pedrero, D. Balzarotti, **I. Santos**, P.G. Bringas. *SoK: Deep Packer Inspection: A Longitudinal Study of the Complexity of Run-Time Packers*. 36th IEEE Symposium on Security and Privacy, 2015, May 18-20th. **Top Tier Conference. CORE A***

[C.61] I. Pastor-López, **I. Santos**, P.G. Bringas. *Surface Defect Categorization of Imperfections in High Precision Automotive Iron Foundries using Best Crossing Line Profile*. Proceedings of the 10th IEEE Conference on Industrial Electronics and Applications (ICIEA), 2015. **ERA A**

[C.60] J. de-la-Peña-Sordo, **I. Santos**, P.G. Bringas *Using Compression Models for Filtering Troll Comments*. Proceedings of the 10th IEEE Conference on Industrial Electronics and Applications (ICIEA), 2015. **ERA A**

[C.59] A. Santamaria-Ibirika, X. Cantero, S. Huerta, **I. Santos**, P.G. Bringas *Procedural Playable Cave Systems Based on Voronoi Diagram and Delaunay Triangulation*. Proceedings of the 2014 International Conference on Cyberworlds (CW), pp 15-22. **CORE B**

[C.58] J. Nieves, **I. Santos**, P.G. Bringas, A. Zabala, J. Sertucha. *Enhancing the stationary state prediction in Model Predictive Control systems to avoid Dross defect in heavy-section foundries*. Proceedings of the IEEE 9th Conference on Industrial Electronics and Applications (ICIEA), 2014, pp. 424 - 429. DOI: 10.1109/ICIEA.2014.6931200. **ERA A**

[C.57] T.P. Silva, **I. Santos**, T.A. Almeida, J.M. Gomez-Hidalgo. *Normalização Textual e Indexação Semântica Aplicadas na Filtragem de SMS Spam*. Anais do XI Encontro Nacional de Inteligência Artificial e Computacional (ENIAC'14), São Carlos, Brazil. **Best paper award**

[C.56] I. Garcia-Ferreira, C. Laorden, **I. Santos**, P.G. Bringas *A Survey on Static Analysis and Model Checking*. Proceedings of the International Joint Conference SOCO'14-CISIS'14-ICEUTE'14, Bilbao, Spain. Advances in Intelligent Systems and Computing Volume 299, 2014, pp 443-452. **CORE B**

[C.55] **I. Santos**, P. Galán-García, C. Laorden, J. Nieves, B. Sanz, P.G. Bringas, J.M. Gomez-Hidalgo. *An Empirical Study on Word Sense Disambiguation for Adult Content Filtering*. Proceedings of the International Joint Conference SOCO'14-CISIS'14-ICEUTE'14, Bilbao, Spain. Advances in Intelligent Systems and Computing Volume 299, 2014, pp 537-544. **CORE B**

[C.54] J. de-la-Peña-Sordo, I. Pastor-López, X. Ugarte-Pedrero, **I. Santos**, P.G. Bringas. *Anomalous User Comment Detection in Social News Websites*. Proceedings of the International Joint Conference SOCO'14-CISIS'14-ICEUTE'14, Bilbao, Spain. Advances in Intelligent Systems and Computing Volume 299, 2014, pp 517-526. **CORE B**

[C.53] I. Pastor-López, **I. Santos**, J. De-La-Peña-Sordo, I. García-Ferreira, A. Gonzalez-Zabala and P.G. Bringas. *Enhanced Image Segmentation using Quality Threshold Clustering for Surface Defect Categorisation in High Precision Automotive Castings*. Proceedings of the 8th International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO). Salamanca (España), 11-13 de Septiembre 2013. International Joint Conference SOCO'13-CISIS'13-ICEUTE'13. Advances in Intelligent Systems and Computing Volume 239, 2014, pp 191-200. ISBN: 978-3-319-01853-9.

[C.52] P. Galán-García, J. Gaviria-de-la-Puerta, C. Laorden, **I. Santos** and P.G. Bringas. *Supervised Machine Learning for the Detection of Troll Profiles in Twitter Social Network: Application to a Real Case of Cyberbullying*. Proceedings of the 6th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Salamanca (España), 11-13 de Septiembre 2013 International Joint Conference SOCO'13-CISIS'13-ICEUTE'13. Advances in Intelligent Systems and Computing Volume 239, 2014, pp 419-428. ISBN: 978-3-319-01853-9. **CORE B**

[C.51] B. Sanz, **I. Santos**, X. Ugarte-Pedrero, C. Laorden, J. Nieves, and P.G. Bringas. *Anomaly Detection using String Analysis for Android Malware Detection*. Proceedings of the 6th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Salamanca (España), 11-13 de Septiembre 2013 International Joint Conference SOCO'13-CISIS'13-ICEUTE'13. Advances in Intelligent Systems and Computing Volume 239, 2014, pp 469-478. ISBN: 978-3-319-01853-9. **CORE B**

[C.50] **I. Santos**, I. Miñambres-Marcos, C. Laorden, P. Galán-García, A. Santamaría-Ibirika and P.G. Bringas *Twitter Content-based Spam Filtering*. Proceedings of the 6th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Salamanca (España), 11-13 de Septiembre 2013. International Joint Conference SOCO'13-CISIS'13-ICEUTE'13. Advances in Intelligent Systems and Computing Volume 239, 2014, pp 449-458. ISBN: 978-3-319-01853-9. **CORE B**

[C.49] J. De-La-Peña-Sordo, **I. Santos**, I. Pastor-Lopez and P.G. Bringas. *Social News Website Moderation through Semi-supervised Troll User Filtering*. Proceedings of the 6th International

Conference on Computational Intelligence in Security for Information Systems (CISIS). Salamanca (España), 11-13 September 2013. International Joint Conference SOCO'13-CISIS'13-ICEUTE'13. Advances in Intelligent Systems and Computing Volume 239, 2014, pp 577-587. ISBN: 978-3-319-01853-9. **CORE B**

[C.48] B. Sanz, **I. Santos**, X. Ugarte-Pedrero, C. Laorden, J. Nieves, and P.G. Bringas. *Instance-based Anomaly Method for Android Malware Detection*. En Proceedings of the 10th International Conference on Security and Cryptography (SECRYPT). Reykjavik (Iceland), 29-31 July 2013, pp. 387-394, ISBN: 978-989-8565-73-0. **CORE B**

[C.47] **I. Santos**, J. Nieves, P.G. Bringas, A. Zabala, and J. Sertucha. *Supervised Learning Classification for Dross Prediction in Ductile Iron Casting Production*. Proceedings of 8th IEEE Conference in Industrial Electronics and Applications (ICIEA), Melbourne (Australia), 19-21 June 2012. **ERA A**

[C.46] J. Nieves, **I. Santos**, and P.G. Bringas *Evolutionary Programming to Adjust the Process in High Precision Foundries*. In Proceedings of 8th IEEE Conference in Industrial Electronics and Applications (ICIEA), Melbourne (Australia), 19-21 June 2012. pp. 912-917. **ERA A**

[C.45] I. Pastor-López, **I. Santos**, J. de-la-Peña-Sordo, M. Salazar, A. Santamaría-Ibirika, P.G. Bringas. *Collective Classification for the Detection of Surface Defects in High Precision Foundry*. In Proceedings of 8th IEEE Conference in Industrial Electronics and Applications (ICIEA), Melbourne (Australia), 19-21 June 2012. pp. 941-946, ISBN: 978-1-4673-6320-4. **ERA A**

[C.44] J. de-la-Peña-Sordo, **I. Santos**, I. Pastor-López, and P.G. Bringas. *Filtering Trolling Comments through Collective Classication*. In Proceedings of the 7th International Conference on Network and System Security (NSS), Madrid (Spain), 3-4 June 2013. J. Lopez, X. Huang, and R. Sandhu (Eds.): LNCS vol. 7873, ISBN: 978-3-642-38630-5, pp. 707–713, 2013. **CORE B**

[C.43] B. Sanz, **I. Santos**, J. Nieves, C. Laorden, I. Alonso-González, P.G. Bringas. *MADS: Malicious Android Applications Detection through String Analysis*. In Proceedings of the 7th International Conference on Network and System Security (NSS), Madrid (Spain), 3-4 June 2013. J. Lopez, X. Huang, and R. Sandhu (Eds.): LNCS vol. 7873, ISBN: 978-3-642-38630-5, pp 178-191, 2013. **CORE B**

[C.42] **I. Santos**, C. Laorden, B. Sanz, and P.G. Bringas. *JURD: Joiner of Un-Readable Documents to Reverse Tokenization Attacks to Content-based Spam Filters*. In Proceedings of the 9th IEEE Consumer Communications and Networking Conference (CCNC), Las Vegas, Nevada (USA), 11-14 January 2013, pp. 259-264. **CORE B**

[C.41] F. Brezo, J. Gaviria de la Puerta, Xabier Ugarte-Pedrero, **I. Santos**, David Barroso, P.G. Bringas. *Clasificación supervisada de paquetes procedentes de una botnet HTTP*. In Proceedings of the 23th Conferencia Latinoamericana en Informática (CLEI 2012), Medellín (Colombia), October 1-5, 2012. **CORE C**

[C.40] C. Laorden, P. Galán-García, **I. Santos**, B. Sanz, J.M. Gomez-Hidalgo, P.G. Bringas. *Negobot: A conversational agent based on game theory for the detection of paedophile behaviour*. In Proceedings of the 5th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Ostrava (Czech Republic), 5-7 September, 2012. **CORE B**

[C.39] B. Sanz, **I. Santos**, C. Laorden, X. Ugarte-Pedrero, P.G. Bringas, G. Alvarez. *PUMA: Permission Usage to detect Malware in Android*. In Proceedings of the 5th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Ostrava (Czech Republic), 5-7 September. **CORE B**

[C.38] **I. Santos**, P. Galán-García, A. Santamaría-Ibirika, B. Alonso-Isla, I. Alabau-Sarasola, P.G. Bringas. *Adult Content Filtering through Compression-based Text Classification*. In Proceedings of the 5th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Ostrava (Czech Republic), 5-7 September, 2012. **CORE B**

[C.37] F. Brezo, J. Gaviria-de-la-Puerta, **I. Santos**, David Barroso, P.G. Bringas. *C&C Techniques in Botnet Development*. In Proceedings of the 5th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Ostrava (Czech Republic), 5-7 September, 2012. **CORE B**

[C.36] **I. Santos**, J. Devesa, F. Brezo, J. Nieves, P.G. Bringas. *OPEM: A Static-Dynamic Approach for Machine-learning-based Malware Detection*. Proceedings of the 5th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Ostrava (Czech Republic), 5-7 September, 2012. **CORE B**

[C.35] J. Nieves, **I. Santos**, P.G. Bringas. *Combination of Machine-Learning Algorithms for Fault Prediction in High-Precision Foundries*. In Proceedings of the 23rd International Conference on Database and Expert Systems Applications (DEXA), Viena, Austria, 3-7 September 2012. Database and Expert Systems Applications - 23rd International Conference, DEXA 2012, Stephen W. Liddle, Klaus-Dieter Schewe, A Min Tjoa, Xiaofang Zhou (Eds.), Proceedings, Part II. Lecture Notes in Computer Science 7447, pp. 56-70, ISBN 978-3-642-32596-0. **CORE B**

[C.34] **I. Santos**, J. Nieves, P.G. Bringas. *Collective Prediction of Ultimate Tensile Strength in High-precision Foundries*. In Proceedings of 7th IEEE Conference in Industrial Electronics and Applications (ICIEA), Singapore (Singapore), 18-20 July 2012. **ERA A**

[C.33] I. Pastor-López, **I. Santos**, A. Santamaría-Ibirika, M. Salazar, J. de-la-Peña-Sordo, P.G. Bringas. *Machine-learning-based Surface Defect Detection and Categorisation in High-Precision Foundry*. In Proceedings of 7th IEEE Conference in Industrial Electronics and Applications (ICIEA), Singapur (Singapur), 18-20th July 2012. **ERA A**

[C.32] **I. Santos**, J. Nieves, C. Laorden, B. Sanz, P.G. Bringas. *Collective Classification for the Prediction of Microshrinkages in Foundry Production*. In Proceedings of the 9th International Symposium on Soft-Computing for Industry (ISSCI), World Automation Congress (WAC), Puerto Vallarta, Mexico, 24-26th June, 2012

[C.31] C. Laorden, X. Ugarte-Pedrero, **I. Santos**, B. Sanz, J. Nieves, P.G. Bringas. *On the Study of Anomaly-based Spam Filtering Using Spam as Representation of Normality*. In Proceedings of 3rd Consumer Communications and Network Conference (CCNC) Research Student Workshop, Las Vegas, Nevada (USA), 14-17th January 2012

[C.30] B. Sanz, **I. Santos**, C. Laorden, X. Ugarte-Pedrero, P.G. Bringas. *On the Automatic Categorisation of Android Applications*. In Proceedings of the 9th IEEE Consumer Communications and Networking Conference (CCNC), Las Vegas, Nevada (USA), 14-17th January 2012. **CORE B**

[C.29] X. Ugarte-Pedrero, **I. Santos**, B. Sanz, C. Laorden, P.G. Bringas. *Countering Entropy Measure Attacks on Packed Software Detection*. In Proceedings of the 9th IEEE Consumer Communications and Networking Conference (CCNC), Las Vegas, Nevada (USA), 14-17th January 2012. **CORE B**

[C.28] X. Ugarte-Pedrero, **I. Santos**, P.G. Bringas. *Boosting Scalability in Anomaly-based Packed Executable Filtering*. Proceedings of the 7th International Conference on Information Security and Cryptology (INSCRYPT). Beijing (China), 30 Noviembre-3 Diciembre, 2011. **CORE B**

[C.27] C. Laorden, X. Ugarte-Pedrero, **I. Santos**, B. Sanz, P.G. Bringas. **Enhancing Scalability in Anomaly-based Email Spam Filtering.** Proceedings of the 8th Annual Collaboration, Electronic messaging, Anti-Abuse and Spam Conference (CEAS), Perth (Australia), 1-2 September 2011, pp. 13-22. **CORE B**

[C.26] **I. Santos**, X. Ugarte-Pedrero, B. Sanz, C. Laorden, P.G. Bringas. **Collective Classification for Packed Executable Identification.** Proceedings of the 8th Annual Collaboration, Electronic messaging, Anti-Abuse and Spam Conference (CEAS), Perth (Australia), 1-2 September 2011, pp. 23-30. **CORE B**

[C.25] X. Ugarte-Pedrero, **I. Santos**, P.G. Bringas, M. Gastesi, J.M. Esparza. *Semi-supervised Learning for Packed Executable Detection*. Proceedings of the 5th International Conference on Network and System Security (NSS), Milan (Italy), 6-8 September 2011 2011, ISBN: 978-1-4577-0459-8, pp 342-346. **CORE B**

[C.24] F. Brezo, **I. Santos**, P.G. Bringas, J.L. del Val. *Challenges and Limitations in Current Botnet Detection*. Proceedings of the 6th International Workshop on Flexible Database and Information System Technology (FlexDBIST), Toulouse (France), 29 August - 2 September 2011.

[C.23] **I. Santos**, J. Nieves, X. Ugarte-Pedrero, P.G. Bringas. *Anomaly Detection for the Prediction of Ultimate Tensile Strength in Iron Casting Production*. Proceedings of the 22nd International Conference on Database and Expert Systems Applications (DEXA), Tolousse (France), 29 August - 2 September 2011, DEXA 2011, Part II, LNCS 6861, pp. 519-526. ISBN: 978-3-642-23090-5, Springer, Heidelberg (2011). **CORE B**

[C.22] J. Nieves, **I. Santos**, X. Ugarte-Pedrero, P.G. Bringas. *Anomaly Detection for High Precision Foundries*. In Proceedings of the 9th IEEE International Conference on Industrial Informatics (INDIN), Caparica, Lisbon (Portugal), 26-29th July 2011.

[C.21] **I. Santos**, C. Laorden, P.G. Bringas. *Collective Classification for Unknown Malware Detection*. In Proceedings of the 6th International Conference on Security and Cryptography (SECRYPT), Seville (Spain), 18-21st July, 2011, pp 251-256. **CORE B**

[C.20] **I. Santos**, C. Laorden, X. Ugarte-Pedrero, B. Sanz, P.G. Bringas. *Anomaly-based Spam Filtering*. In Proceedings of the 6th International Conference on Security and Cryptography (SECRYPT), Seville (Spain), 18-21st July, 2011, pp. 5-14. **CORE B**

[C.19] X. Ugarte-Pedrero, **I. Santos**, P.G. Bringas. *Structural Feature based Anomaly Detection for Packed Executable Identification*. Proceedings of the 4th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Torremolinos (Spain), 8-10th June, 2011, CISIS 2011, LNCS 6694, ISBN: 978-3-642-21323-6, pp 230-237. Springer, Heidelberg (2011). **CORE B**

[C.18] C. Laorden, B. Sanz, **I. Santos**, P. Galán-García, P.G. Bringas. *Collective Classification for Spam Filtering*. Proceedings of the 4th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Torremolinos (Spain), 8-10th June, 2011, CISIS 2011, LNCS 6694, ISBN: 978-3-642-21323-6, pp. 1-8. Springer, Heidelberg (2011). **CORE B**

[C.17] **I. Santos**, B. Sanz, C. Laorden, F. Brezo, P.G. Bringas. *Opcode-sequence-based Semi-supervised Unknown Malware Detection.* Proceedings of the 4th International Conference on Computational Intelligence in Security for Information Systems (CISIS). Torremolinos (Spain), 8-10th June, 2011, CISIS 2011, LNCS 6694, ISBN: 978-3-642-21323-6, pp. 50-57. Springer, Heidelberg (2011). **CORE B**

[C.16] **I. Santos**, J. Nieves, P.G. Bringas. *Semi-supervised Learning for Unknown Malware Detection.* In Proceedings of the 6th International Symposium on Distributed Computing and Artificial Intelligence (DCAI). 9th International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS). Salamanca (Spain), 6-8 de Abril, 2011, International Symposium on Distributed Computing and Artificial Intelligence, Advances in Intelligent and Soft Computing, Vol. 91, A. Abraham, J.M. Corchado, S. Rodríguez González and J.F. de Paz Santana (Eds.), ISBN 978-3-642-19933-2, pp 415-422. **CORE B**

[C.15] J. López-de-Uralde, T. Guraya, A. Okariz, E. Gómez, A. Zubillaga, **I. Santos**. *Automated Image Analysis and Artificial Intelligence applied to microscopic images: a new methodology for the morphological characterization of nano-particles.* In Proceedings of Modelling of Elastomeric Materials and Products. London (U.K.), 14th October, 2010

[C.14] **I. Santos**, J. Nieves, P.G. Bringas. *Enhancing Fault Prediction on Automatic Foundry Processes.* In Proceedings of the 8th International Symposium on Soft-Computing for Industry (ISSCI), World Automation Congress (WAC). Kobe (Japan), 19-23th September, 2010

[C.13] J. Nieves, **I. Santos**, P.G. Bringas. *Overcoming data gathering errors for the prediction of mechanical properties on high precision foundries.* In Proceedings of the 8th International Symposium on Soft-Computing for Industry (ISSCI), World Automation Congress (WAC), Kobe (Japan), 19-23th September, 2010

[C.12] J. López-de-Uralde, I. Ruiz, **I. Santos**, A. Zubillaga, P.G. Bringas, A. Okariz, T. Guraya. *Automatic Morphological Categorisation of Carbon Black Nano-aggregates*. In Proceedings of the 21st International Conference on Database and Expert Systems Applications (DEXA) (Part II). Bilbao (Spain), 30 August - 3 September 2010. Database and Expert Systems (Part II), LNCS, Vol. 6262, P.G. Bringas, A. Hameurlain and G. Quirchmayr (Eds.), ISBN: 978-3-642-15251-1, pp. 185-193. **CORE B**

[C.11] J. Nieves, **I. Santos**, Y. K. Penya, F. Brezo, P.G. Bringas. *Enhanced Foundry Production Control*. In Proceedings of the 21st International Conference on Database and Expert Systems Applications (DEXA) (Part I). Bilbao (Spain), 30 August - 3 September 2010. Database and Expert Systems (Part I), LNCS, Vol. 6261, P.G. Bringas, A. Hameurlain and G. Quirchmayr (Eds.), ISBN: 978-3-642-15364-8, pp. 213-220. **CORE B**

[C.10] J. M. Gómez-Hidalgo, J. M. Martín-Abreu, J. Nieves, **I. Santos**, F. Brezo, P.G. Bringas. *Data Leak Prevention through Named Entity Recognition.* In Proceedings of the 1st International

Workshop on Privacy Aspects of Social Web and Cloud Computing (PASWeb). IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT2010), Minneapolis, USA, August 19-22, 2010, pp. 1129-1134

[C.9] M. Salazar, D. Gallego, Y.K. Penya, **I. Santos**, P.G. Bringas. *Fault-tolerant Defect Prediction in High-precision Foundry.* In Proceedings of the 8th IEEE International Conference on Industrial Informatics (INDIN'10), Osaka (Japan), 13-16th July 2010, pp. 373-378

[C.8] **I. Santos**, J. Nieves, Y.K. Penya, P.G. Bringas. *Towards Noise and Error Reduction on Foundry Data Gathering Processes.* In Proceedings of the IEEE International Symposium on Industrial Electronics (ISIE), Bari (Italy), 4-7th July 2010, pp. 1765-1770.

[C.7] J. Devesa, **I. Santos**, X. Cantero, Y.K. Penya, P.G. Bringas. *Automatic Behaviour-based Analysis and Classification System for Malware Detection.* In Proceedings of the 12th International Conference on Enterprise Information Systems (ICEIS). Funchal (Madeira - Portugal), 8 - 12 June 2010, pp. 395-399. **CORE C**

[C.6] J. M. Gómez Hidalgo, J. M. Martín Abreu, P G. Bringas, **I. Santos**. *Content Security and Privacy Preservation in Social Networks through Text Mining.* In Proceedings of the 2nd Workshop on Interoperable Social Multimedia Applications (WISMA). Barcelona (Spain), 19 - 20 May 2010.

[C.5] **I. Santos**, F. Brezo, J. Nieves, Y.K. Penya, B. Sanz, C. Laorden, P.G. Bringas. *Opcode-sequence-based Malware Detection.* In Proceedings of the 2nd International Symposium on Engineering Secure Software and Systems (ESSoS), Pisa (Italy), 3-4th February 2010. Engineering Secure Software and Systems, LNCS, Vol. 5965, F. Massacci, D. Wallach and N. Zannone (Eds.), ISBN: 978-3-642-11747-3, pp. 35-43.

[C.4] **I. Santos**, J. Nieves, Y.K. Penya, P.G. Bringas. *Machine-learning-based Mechanical Properties Prediction in Foundry Production.* In Proceedings of the ICROS-SICE International Joint Conference (ICCAS-SICE), Fukuoka, Japan, 18-21 August 2009, pp. 4536-4541. **Best Student Paper Award**

[C.3] J. Nieves, **I. Santos**, Y.K. Penya, Sendoa Rojas, Mikel Salazar, P.G. Bringas. *Mechanical Properties Prediction in High-Precision Foundry Production.* In Proceedings of the 7th IEEE International Conference on Industrial Informatics (INDIN'09), Cardiff (Wales), 24-26th June 2009, pp. 31-36.

[C.2] **I. Santos**, J. Nieves, Y.K. Penya, P.G. Bringas. *Optimising Machine-learning-based Fault Prediction in Foundry Production.* In Proceedings of the International Symposium on Distributed Computing and Artificial Intelligence (DCAI), Salamanca, Spain, 10-12 June 2009. Distributed Computing, Artificial Intelligence, Bioinformatics, Soft Computing, and Ambient Assisted Living. LNCS Vol. 5518, S. Omatu el al. (Eds.), ISBN: 978-3-642-02481-8, pp. 554-561.

[C.1] **I. Santos**, Y.K. Penya, J.Devesa, P.G. Bringas. *N-Grams-based file signatures for malware detection.* In Proceedings of the 11th International Conference on Enterprise Information Systems (ICEIS), Volume AIDSS. Milan, Italy, 6 - 10 May 2009, pp. 317-320. **CORE C**

Teaching Activity

PhD & MSc Courses

– Scientific Methodology

Faculty of Engineering,

PhD on Computer Science,

University of Deusto

Academic years: 2019/2020, 2018/2019, 2017/2018, 2016/2017, 2015/2016, 2014/2015, 2013/2014, 2012/2013

– Advanced Artificial Intelligence

Faculty of Engineering

PhD on Computer Science

University of Deusto.

Academic year: 2019/2020, 2018/2019, 2017/2018, 2016/2017, 2015/2016, 2014/2015, 2013/2014

– Advanced Artificial Intelligence

Faculty of Engineering

MSc on Computer Science

University of Deusto.

Academic year: 2013/2014

– New Approaches for Malware Detection

Faculty of Engineering,

MSc in System Security,

University of Deusto

Academic years: 2013/2014, 2012/2013, 2011/2012, 2010/2011

Undergraduate Courses

– Computer Programming I

Graduate on Computer Science, Graduate on Telecommunications

Faculty of Engineering

University of Deusto

Academic years: 2015/2016, 2015/2014

– Software Requirements

Double Degree in Computer Science and Business Administration

Faculty of Economics and Business Administration-ESTE

University of Deusto

Academic years: 2012/2013

- Computer Programming (Industrial Engineering)

  Degree in Industrial Engineering

  Faculty of Engineering

  University of Deusto

  Academic years: 2011/2012

- Computer Programming II

  Degree in Computer Science & Double Degree in Computer Science & Business Administration

  Faculty of Engineering & Faculty of Economics and Business Administration-EST

  University of Deusto

  Academic years: 2010/2011

Coordination Activities

- Member of the Council of the PhD Program of the Faculty of Engineering. 4th Vocal.
  2020/2019, 2019/2018, 2018/2017

Awards and Honors

2018 – Member of the Research Council of the Basque CyberSecurity Center.

2015 – "Profesor Titular de Universidad" – Associate Professor

- Issued by the Spanish "Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA)"
- The accreditation/certification allows the awarded to access to the Spanish public university Associate Professor civil servant positions.

2014 – Best Paper Award – ENIAC'14 São Carlos, Brazil.

2014 – ICT Security Research Award for the project NEGOBOT- "Red Seguridad" magazine.

2013 – Korea Eureka Day Award for the Most Innovative Project Proposal – Eureka.

2010 – 2nd Prize Santander-UD Research Award – Banco Santander.

2009 – Student Travel Grant Award – ICROS-SICE International Joint Conference, Fukuoka, Japan.

Research Grants

[G.66] SENDAI: SEGURTASUN INTEGRALA INDUSTRIA ADIMENTSURAKO. Funded by: Elkartek 2019. Basque Government. Ref: N/A. PI (University of Deusto): **Igor Santos** Budget (University of Deusto): 43,436.94

[G.65] VESSEDIA: VERIFICATION ENGINEERING OF SAFETY AND SECURITY CRITICAL INDUSTRIAL APPLICATIONS. Funded by: H2020. 2016-DS-01 Ref: N/A. PI (University of Deusto): **Igor Santos** Budget (University of Deusto): 352,125 Euros

[G.64] SOCIAL SPAM: SEGUIMIENTO Y FILTRADO DE SPAM PERSONALIZADO EN MEDIOS SOCIALES MEDIANTE MODELOS DE DIFUSIÓN Y ANÁLISIS DE CONTENIDO. Funded by: Gobierno Vasco Research Ref: N/A. PI: **Igor Santos** Budget: 48,300 Euros

[G.63] TD - CISIS, SOCO-ICEUTE. Funded by: Eusko jaurlaritza - Gobierno Vasco. Ref: RC-2014-1-1-138. PI: **Igor Santos** Budget: 29,250 Euros

[G.62] VEMAS: SISTEMA INSTALADO "EN LA NUBE" PARA LA VERIFICACIÓN FORMAL DEL SOFTWARE Y LA MEDIDA DE SU CALIDAD, DESDE LOS COMPILADORES E INTÉRPRETES QUE EJECUTAN EL CÓDIGO HASTA LAS APLICACIONES. Funded by: Consultoría Tecnológica para el comercio, SL (CONSULTEC), Avangroup Bussiness Solutions S.L. Research Contract. Ref: N/A. PI: Borja Sanz Urquijo. Budget: 44,161 Euros

[G.61] ACSAS – ANÁLISIS DE CAMPAÑAS Y SENSIBILIDAD A LA AMBIGÜEDAD LINGÜÍSTICA PARA LA MEJORA DEL FILTRADO DE SPAM. Funded by: AVANGROUP BUSINESS SOLUTIONS S.L. Research Contract. Ref: N/A. PI: **Igor Santos**. Budget: 8,000 Euros

[G.60] APPSEYE. HERRAMIENTA DE MONITORIZACIÓN Y ANÁLISIS DE MERCADOS DE APLICACIONES PARA DISPOSITIVOS MÓVILES. Funded by: Ministerio de Economía y Competitividad. Ref: N/A. PI: Pablo García Bringas. Budget: 74,278 Euros

[G.59] COLLABORATION IN FP7-SOURCE PROJECT. Funded by: Tecnalia. Research Contract Ref: N/A. PI: **Igor Santos** Budget: 9,000 Euros

[G.58] FIPS: FUTURE INTELLIGENT PRODUCTION SYSTEM. Funded by: ONR, US Navy. Ref: N/A. PI: **Igor Santos** Budget: 137,078 Euros

[G.57] GREENAPPCODE: EFICIENCIA ENERGÉTICA EN EL DESARROLLO DE SOFTWARE. Funded by: Consultora Tecnológica para el Comercio (Consultec). Research Contract. Ref: N/A. PI: Pablo García Bringas Budget: 57,528 Euros

[G.56] H2-HLA, HERRAMIENTA PARA EL TIPADO DE ALTA RESOLUCIÓN Y DE ALTA CAPACIDAD DE ANTÍGENOS HLA. Funded by: Ministerio de Economía y Competividad. Research Contract. Ref: N/A. PI: **Igor Santos**. Budget: 176,689 Euros

[G.55] HACKOBOT. Funded by: Telefónica Digital S.L. Research Contract. Ref: N/A. PI: **Igor Santos**. Budget: 15,000 Euros

[G.54] HAIS 2015. Funded by: Eusko jaurlaritza - Gobierno Vasco. Ref: N/A. PI: **Igor Santos** Budget: 30,000 Euros

[G.53] NEWCALIP: DISEÑO Y DESARROLLO DE UNA NUEVA GENERACIÓN DE MORDAZAS DE FRENO PARA EL SECTOR EÓLICO CON MAQUINABILIDAD ÓPTIMA. Funded by: Fundaciones Garbi, S.A. Research Contract. Ref: N/A. PI: Iker Pastor López. Budget: 20,000 Euros

[G.52] NOTT: DISEÑO Y DESARROLLO DE NUEVAS CARCASAS DE REDUCTORA PARA EL SECTOR DEL FERROCARRIL LIBRES DE TENSIONES RESIDUALES SIN NECESIDAD DE APLICAR TRATAMIENTOS TÉRMICOS. Funded by: Fundaciones Garbi, S.A. Research Contract. Ref: N/A. PI: Iker Pastor López. Budget: 5,000 Euros

[G.51] PARKGLE: SISTEMA ONLINE Y AUTOMÁTICO DE BÚSQUEDA DE APARCAMIENTO LIBRE EN LA CALLE. Funded by: SERIKAT S.L. Research Contract. Ref: N/A. PI: Sergio Huerta Lara. Budget: 16,000 Euros

[G.50] PILOTO DE AUDITORÍA DE ESPACIOS PROMOCIONALES PARA EROSKI. Funded by: LANIT SOLU-CIONES TECNOLÓGICAS S.L. Research Contract. Ref: N/A. PI: Borja Sanz. Budget: 5,000 Euros

[G.49] PRINT3: NUEVA PLATAFORMA PARA MONITORIZACIÓN Y CONTROL PREDICTIVO IN-TELIGENTE EN LA INDUSTRIA. Funded by: AVANGROUP BUSINESS SOLUTION S.L., Fundiciones Garbi S.A, Gerdau Aceros Especiales Europa S.L. Research Contract. Ref: N/A. PI: Javier Nieves. Budget: 175,000 Euros

[G.48] PRINT2: PLATAFORMA PARA LA MONITORIZACIÓN Y CONTROL PREDICTIVO INTELIGENTE EN LA INDUSTRIA. Funded by: AVANGROUP BUSINESS SOLUTION S.L., Fundiciones Garbi S.A., Gerdau Aceros Especiales Europa S.L. Research Contract. Ref: N/A. PI: **Igor Santos** Budget: 62,000 Euros

[G.47] PROGENIKA 2014. Funded by: Progenika GRIFOLS S.A. Research Contract. Ref: N/A. PI: **Igor Santos Grueiro**. Budget: 24,000 Euros

[G.46] RETTO-PLATFORM. Funded by: Ministerio de Economía y Competitividad. Programa IN-NPACTO 2012. Ref: N/A. PI: Pablo García Bringas. Budget: 172,715 Euros

[G.45] SARA. SISTEMA AVANZADO DE RESGUARDO CONTRA AMENAZAS ONLINE. Funded by: Ministerio de Economía y Competitividad. Programa INNPACTO 2012. Ref: N/A. PI: Pablo García Bringas. Budget: 17,215 Euros

[G.44] OPENDASH: DASHBOARD Y BUSINESS INTELLIGENCE (BI) UTILIZANDO OPENDATA. Funded by: Fidelnet Comunicación S.L., ZYLK.NET S.L., PROSPEKTIKER, S.A. ,CODESYNTAX S.L. Research Contract. Ref: N/A. PI: Diego López de Ipiña. Budget: 20,000 Euros

[G.43] CENIT NEOGENIUS PROTEOMIKA SL TRAMO A. Funded by: Ministerio de Industria. CDTI 2012. Research Contract. Ref: N/A. PI: Pablo García Bringas. Budget: 65,875 Euros

[G.42] NEOBIO. NUEVOS PRODUCTOS PARA LA SALUD REPRODUCTIVA Y PRENATAL. Funded by: Eusko jaurlaritza - Gobierno Vasco. Programa ETORGAI 2012. Ref: ER-2012/00015. PI: Pablo García Bringas. Budget: 109,000 Euros

[G.41] PRINT. NUEVA PLATAFORMA PARA MONITORIZACIÓN Y CONTROL PREDICTIVO INTELIGENTE EN LA INDUSTRIA. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa ETORGAI 2012. Ref: ER-2012/00028. PI: Pablo García Bringas. Budget: 40,000 Euros

[G.40] PROMEC. NUEVAS TÉCNICAS DE PREDICCIÓN DE PROPIEDADES MECÁNICAS EN MATERIALES REFORZADOS CON NANOPARTÍCULAS. Funded by: Diputación Foral de Vizcaya. Centros de Excelencia 2012. Ref: 6/12/TK/2012/00012. PI: Pablo García Bringas. Budget: 150,682 Euros

[G.39] DICOMA. DISASTER CONTROL MANAGEMENT. Funded by: ITEA2 Program and Ministry of Industry of Spain. Ref: 201100050147418. PI: Pablo García Bringas. Budget: 13,125 Euros

[G.38] PROGENIKA1. PROYECTO DE EXPERIMENTACIÓN CON INFORMACIÓN GENÉTICA PARA SECUEN-CIACIÓN HUMANA. Funded by: PROGENIKA S.A. Research Contract. Ref: N/A. PI: Pablo García Bringas. Budget: 120,600 Euros

[G.37] PROGENIKA2. Clasificación de individuos afines a cáncer de pulmón.. Funded by: PROGENIKA S.A. Research Contract. Ref: N/A. PI: Pablo García Bringas. Budget: 34,000 Euros

[G.36] IPRO: Intelligent Foundry Business Process. Funded by: Eurostars. Ref: N/A. PI: Pablo García Bringas. Budget: 12,000 Euros

[G.35] MARSOL. Modelos de propagación de malware a través de redes sociales on-line. Funded by: Ministerio de Ciencia e Innovación. PLAN NACIONAL DE I+D 2011 . Ref: TIN2011-29709-C02-02. PI: Pablo García Bringas. Budget: 12,705 Euros

[G.34] LIPOUNIVERSAL. Plataforma integral para el diagnóstico universal de la hiper-colesterolemia familiar. Funded by: Ministerio de Economía y Competitividad. Programa INNPACTO 2011. Ref: 201460000027639. PI: Pablo García Bringas. Budget: 391,124 Euros

[G.33] MANAFUN. Desarrollo de nuevos materiales de fundición de altas prestaciones reforzados con nanopartículas.. Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia. Programa Centros de Excelencia 2011. Ref: 6-12-TK-2011-01. PI: Pablo García Bringas. Budget: 36,075 Euros

[G.32] HANTURATECH. Nuevas Tecnologías para la Identificación y Validación de Candidatos Terapéuticos en Inflamación . Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa ETORGAI 2011. Ref: ER-2011/00015. PI: Pablo García Bringas. Budget: 104,000 Euros

[G.31] GNOSS. Desarrollo de algoritmos de inteligencia artificial aplicados a la agregación, búsqueda facetada y razonamiento para gnoss.com. Funded by: Ministerio de Industria. CDTI. Ref: 200900005003309. PI: Pablo García Bringas Budget: 48,000 Euros

[G.30] Deusto for Knowledge - D4K, Grupo de Investigación Reconocido por el Sistema Universitario Vasco. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Departamento de Universidades e Investigación, 2010. Centros de Conocimiento. Ref: IT-551-10 . PI: Pablo García Bringas Budget: 119,067 Euros

[G.29] METALCLOUD: Organización colectiva de conocimiento técnico para las empresas del sector de fundición. Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia, Programa Bizkaiberri, Centros de Excelencia, 2010. Ref: 6-12-TK-2010-0011. PI: Pablo García Bringas. Budget: 203274 Euros

[G.28] SAREAK: Sare-Sozialetan Erreputazioa eta Aurriskuak Kudeatzen, Sistema Inteligente de Gestión de Seguridad. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa Saiotek 2010. Ref: S-PE10FD04. PI: Pablo García Bringas. Budget: 85,322 Euros

[G.27] GUARANTEE II: Guardian Angel for Extended home environment [Part II]. Funded by: ITEA2. Ref: TSI-020400-2010-83. PI: Pablo García Bringas. Budget: 19,394 Euros

[G.26] GUARANTEE I : Guardian Angel for Extended home environment [Part I]. Funded by: ITEA2. Ref: TSI-020400-2009-110. PI: Pablo García Bringas. Budget: 27,607 Euros

[G.25] OGRC: Nuevas soluciones OGRC para el cumplimiento de políticas y seguridad digital. Funded by: Ministerio de Ciencia e Innovación. Programa INNPACTO 2010. Ref: IPT-430000-2010-043. PI: Pablo García Bringasz. Budget: 158,608 Euros

[G.24] FUTURE INTERNET. A FUTURE INTERNET PROGRAMME. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa ETORTEK 2010. Ref: IE11-316. PI: Diego López de Ipiña. Budget: 142,359 Euros

[G.23] COMALTO. DESARROLLO DE MATERIALES POLIMÉRICOS REFORZADOS CON FIBRAS DE BASALTO PARA APLICACIONES ESTRUCTURALES. Funded by: Bizkaiako Foru Aldundia - Diputación Foral de Bizkaia. Programa Centros de Excelencia 2011. Ref: 6-12-TK-2011-026. PI: Pablo García Bringas Budget: 36,375 Euros

[G.22] BRAINWAVE. SISTEMA DE SUPERCOMPUTACIÓN CON LA TECNOLOGÍA GPGPU. Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia. Programa Centros de Excelencia 2011. Ref: 6-12-TK-2011-09. PI: Pablo García Bringas. Budget: 220,201 Euros

[G.21] CONAN. ANÁLISIS DE NANO-AGREGADOS CB (CARBON-BLACK). Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia, Programa Bizkaiberri, Centros de Excelencia, 2010. Ref: NEG.86/11 . PI: PI: Pablo García Bringas Budget: 40,000 Euros

[G.20] NEMESIS. MINERÍA DE DATOS EFICIENTE SOBRE UN SISTEMA DE SUPERCOMPUTACIÓN. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa Gaitek 2010. Ref: IG-2012/00365. PI: Pablo García Bringas. Budget: 10,322 Euros

[G.19] BRANKA4U. EVOLUCIÓN DE LOS SERVICIOS BANCARIOS HACIA EL FUTURO. Funded by: Eusko jaurlaritza - Gobierno Vasco. Programa ETORGAI 2010. Ref: N/A. PI: Pablo García Bringas. Budget: 86,501 Euros

[G.18] BRANKA: FACTORIZACIÓN DE LA INDUSTRIA DEL SOFTWARE. TRAMO B. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa ETORGAI 2010. Ref: N/A. PI: Pablo García Bringas. Budget: 19,166 Euros

[G.17] BRANKA: FACTORIZACIÓN DE LA INDUSTRIA DEL SOFTWARE. TRAMO A. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa ETORGAI 2010. Ref: N/A. PI: Pablo García Bringas. Budget: 40,000 Euros

[G.16] TQC2: CONTROL PREDICTIVO EN LÍNEA DE CARACTERÍSTICAS EN PIEZAS DE ALUMINIO. Funded by: Azterlan Centro Metalúrgico de Investigación. Research Contract. Ref: N/A. PI: Pablo García Bringas. Budget: 30,000 Euros

[G.15] TQC1: MINIMIZACIÓN DE LA DEFECTOLOGÍA MEDIANTE LA INTEGRACIÓN DE HERRAMIENTAS DE PREDICCIÓN DE COMPORTAMIENTO. Funded by: Azterlan. Research Contract. Ref: N/A. PI: Pablo García Bringas. Budget: 36,000 Euros

[G.14] POLIFEMO: DETECCIÓN Y ANÁLISIS DE DEFECTOS SUPERFICIALES EN FUNDICIÓN GRAFÍTICO ESFEROIDAL. Funded by: Ministerio de Ciencia e Innovación. PLAN NACIONAL DE I+D. Ref: CIT-020000-2009-008. PI: Pablo García Bringas. Budget: 108,364 Euros

[G.13] SIRIUS, FILTRADO DE CONTENIDOS PARA LA PROTECCIÓN DE LA INFANCIA. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa GAITEK 2009. Ref: IG-2009/00457. PI: **Igor Santos** Budget: 47,625 Euros

[G.12] CLOMA: ANÁLISIS Y DETECCIÓN DE MALWARE EN CLOUD COMPUTING. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa Euskadi09+ 2009. Ref: UE09+/77 . PI: **Igor Santos** Budget: 45,725 Euros

[G.11] NEGOBOT: ANÁLISIS CONVERSACIONAL PARA PROTECCIÓN DE LA INFANCIA EN REDES SO-CIALES. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa Euskadi09+ 2009. Ref: UE09+/100. PI: Pablo García Bringas. Budget: 67,018 Euros

[G.10] ANÁLISIS DE DEFECTOS SUPERFICIALES EN PIEZAS DE FUNDICIÓN GE. DESARROLLO DE VISIÓN ARTIFICIAL ORIENTADA A VARIABLES DE SALIDA EN EL SISTEMA DE GESTIÓN INTEGRAL DEL PROCESO DE TRANSFORMACIÓN METÁLICA. Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia, Programa Ekinberri 2009. Ref: N/A. PI: Pablo García Bringas. Budget: 107,072 Euros

[G.9] FFBIC: FUTURE FOUNDRY BUSINESS INTELLIGENCE CENTRE. Funded by: Ministerio de Industria. Plan Avanza 2009. Ref: N/A. PI: Pablo García Bringas: 1,013,000 Euros

[G.8] TRUSTED BANKING: SECURE, TRUST AND RESILLENCE PLATFORM FOR BANKING. Funded by: Ministerio de Industria. Plan Avanza 2008. Proyecto Tractor. Ref: N/A. PI: Pablo García Bringas. Budget: 40,000 Euros

[G.7] SECADMON: PROVISIÓN DE SERVICIOS ELECTRÓNICOS SEGUROS EN ADMINISTRACIÓN ELEC-TRÓNICA. Funded by: Eusko Jaurlaritza - Gobierno Vasco. Programa Innotek 2008. Ref: IT-2008/00332. PI: Pablo García Bringas. Budget: 64,692 Euros

[G.6] DESARROLLO DEL LABORATORIO S3LAB DFB - LABORATORY FOR SMARTNESS, SEMANTICS AND SECURITY, COMO CENTRO DE EXCELENCIA EN I+D+I.. Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia 2008. Ref: N/A . PI: Pablo García Bringas Budget: 560,000 Euros

[G.5] DESARROLLO DEL LABORATORIO S3LAB PLAN AVANZA - LABORATORY FOR SMARTNESS, SEMAN-TICS AND SECURITY, COMO CENTRO DE CONTENIDOS EXPERIMENTALES. Funded by: Ministe-rio de Industria. Plan Avanza 2007. Centros de Conocimiento. Ref: N/A . PI: Pablo García Bringas Budget: 1,000,000 Euros

[G.4] ESIDE-METALCOMPRESSION: MODELO DE ANÁLISIS DE PARÁMETROS DE FUNDICIÓN ESFER-OIDAL BASADO EN TÉCNICAS DE COMPRESIÓN BAYESIANA. Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia, Programa Ekinberri 2008. Ref: N/A . PI: Pablo García Bringas Budget: 60,184 Euros

[G.3] ESIDE-METALCOMPRESSION: MODELO DE ANÁLISIS DE PARÁMETROS DE FUNDICIÓN ESFER-OIDAL BASADO EN TÉCNICAS DE COMPRESIÓN BAYESIANA. Funded by: Bizkaiko Foru Aldundia - Diputación Foral de Bizkaia, Programa Ekinberri 2008. Ref: N/A . PI: Pablo García Bringas Budget: 60,184 Euros

[G.2] CENIT SEGUR@: SEGURIDAD Y CONFIANZA EN LA SOCIEDAD DE LA INFORMACIÓN, TRAMO A. Funded by: Ministerio de Industria. CDTI. Programa Cenit 2007. Ref: N/A. PI: Pablo García Bringas. Budget: 550,000 Euros

[G.1] CENIT SEGUR@: SEGURIDAD Y CONFIANZA EN LA SOCIEDAD DE LA INFORMACIÓN, TRAMO B. Funded by: Ministerio de Industria. CDTI. Programa Cenit 2007. Ref: N/A. PI: Pablo García Bringas. Budget: 138,659 Euros

Former PhD Students

- Iskander Sanchez-Rola, 2014-2019

  (co-advised along with Prof. Davide Balzarotti, Institute Eurecom)

  Awarded as one the best PhD Thesis from Spain by the Spanish Scientific Society of Computer Science ("Sociedad Científica de Informática de España", SCIE)

  Now, Principal Researcher of Web Security at NortonLifeLock Research Group (formerly, Symantec Research Labs)

- Iván García Ferreira, 2012-2015

  (co-advised along with Prof. Pablo G. Bringas, University of Deusto)

  Now, General CyberSecurity Director at Bankia

- Xabier Ugarte-Pedrero, 2011-2015

  (co-advised with Prof. Pablo G. Bringas, University of Deusto)

  Awarded as the best PhD dissertation of the University of Deusto ("Premio Ignacio Ellacuría"), 2015

  Now, Researcher at CISCO Security Intelligence and Research group

- Jorge de-la-Peña-Sordo, 2011-2014

  (co-advised with Prof. Pablo G. Bringas, University of Deusto)

  Now, at GISTEK Insurance Solutions

- Aitor Santamaría-Ibirika, 2011-2014

  (co-advised with Prof. Pablo G. Bringas, University of Deusto)

  Now, AI Software Engineer at Sony Santa Monica Studio

- Félix Brezo 2012- 2014

  (co-advised with Prof. Pablo G. Bringas, University of Deusto)

  Now, Transparency Engineer at Network Tokenization at Telefónica

- Iker Pastor-López 2011- 2013

  (co-advised with Prof. Pablo G. Bringas, University of Deusto)

  Now, Assistant Professor at the University of Deusto

PhD Jury Membership

- Platon Kotzias – *IMDEA Software Institute – Technical University of Madrid*, 2019

- Enaitz Ezpeleta – *Mondragón University, Spain*, 2016

- Borja Sanz Urquijo – *University of Deusto, Spain*, 2012

Professional Activities

Conference & Session Chair

- 2020 Publication Chair of the 2020 International Symposium on Research in Attacks, Intrusions and Defenses (RAID), Donostia-San Sebastian, Spain

- 2015 General Local Chair of the 2015 International Conference on Hybrid Artificial Intelligent Systems (HAIS), Bilbao, Spain.

- 2015 Special Session Chair of the 2015 International Conference on Computational Intelligence in Security for Information Systems (CISIS), Burgos, Spain.

- 2014 Session Chair of the 2014 International Conference on Computational Intelligence in Security for Information Systems (CISIS, Bilbao, Spain.

- 2011 Session Chair of 2011 Database and Expert Systems Applications Conference (DEXA), Toulouse, France.

Program Committee Membership

- "Jornadas Nacionales de Investigación en Ciberseguridad" (JNIC) – (2016, 2015)

- Hybrid Intelligent Artificial System (HAIS) – (2018, 2017, 2016, 2015, 2014, 2013, 2012)

- Database and Expert System Applications (DEXA) – (2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011)

- International Conference on Computational Intelligence in Security for Information Systems (CISIS) – (2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011)

- International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO) – (2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011)

- International Conference on Information Assurance and Security (IAS) – (2012, 2011)

- CUBE Conference –(2012)

- International Database Engineering & Applications Symposium (IDEAS) – (2012, 2011)

Journal Reviewer

- IEEE Transactions on Information Forensics & Security.

- Journal of Network and Computer Applications.

- Journal of Information Security and Applications.Approx

- Journal of Systems and Software.

- ACM Transactions on Privacy & Security (TOPS))

- Computers & Security.

- Information Sciences.

  - Neurocomputing.

  - Logic Journal of the IGPL.

I may have reviewed papers for other journals, but eventually I have forgotten their names and the papers I reviewed...

Additional Information

My personal website (at `https://igor-santos.net`) also contains additional information about my professional activity.

If you need any additional information about my professional activity or any other documents such as my research or teaching agenda, do not hesitate to contact me.