

Part A. PERSONAL INFORMATION**CV date**

09/01/2024

First and Family name	Ángel Jesús Varela Vaca		
Current position	Profesor Titular de Universidad	From	Enero 2022
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0001-9953-6005	
	SCOPUS Author ID (*)	25642067800	
	WoS Researcher ID (*)		

(*) Optional (**) Mandatory

A.1. Current position

Name of University/Institution	Universidad de Sevilla		
Department	Lenguajes y Sistemas Informáticos		
Address and Country	Avd. Reina Mercedes s/n 41012		
Phone number		E-mail	ajvarela@us.es
Key words	Inteligencia Artificial, Informática, Sistemas de Información, Procesos de Negocio. Seguridad Informática		

A.2. Education

PhD, Licensed, Graduate	University	Year
Doctor	Universidad de Sevilla	2013
Máster Oficial en Ingeniería y Tecnología del Software	Universidad de Sevilla	2010
Ingeniería Informática	Universidad de Sevilla	2008

A.3. General indicators of quality of scientific production (see instructions)

Citas Scopus/Google (S/GS)	343/638	Sexenios	1
Citas /year 2019-24 (S/GS)	286/500	I.P Proyecto I+D	2
Revisatas JCR	30 (9xQ1, 13xQ2, 1xQ3, 2xQ4)	I.P Contratos I+D	5
H-index (S/GS)	11/15	Capital Captado	493.984 €
Artículos de conferencia ¹	4 (GII-GRIN-SCIE-Rating Class 2)	Tesis dirigidas	2

Part B. CV SUMMARY (max. 3500 characters, including spaces)

He started his professional career as a researcher and teacher in 2008, focused on Cybersecurity, Business Process Management, and Software Product Lines as main research lines. He has followed the guidelines established by the ANECA for the achievement of a curriculum according to the current models:

1. Research merits: He has 22 relevant (9Q1, 13Q2) publications and 6 relevant publications (1Q3, 2Q4, 4xClase 2 GII- GRIN SCIE Rating). He has over 25 conferences and workshop publications, with two in class 3 GII-GRIN-SCIE-Rating, 1 book edition, 3 book chapters, and 2 other publications in non-indexed journals. He has been a member of TIC-134 and is currently a very active member of the TIC-258 group. In terms of projects, he has participated as a researcher in 6 national and 3 regional competitive projects, being responsible for 2 national projects. He has participated in more than 10 transfer projects (Art. 83/68), 6 as principal investigator and another 5 as collaborating researcher. He was the supervisor of 2 theses, and he is the director of three theses. He has sufficient merits to obtain 2 six-year research periods.

2. Teaching merits: He has taught more than 23000 hours since 2008 distributed in 3 Computer Engineering Degrees and 3 Official master's degrees at the University of Seville. He has been an active lecturer in the master's degree in Cybersecurity at the University of Seville since 2013. He has directed more than 67 TFG in Degrees and TFM and master's in computer

¹ Según GII-GRIN-SCIE ranking.

engineering and software engineering. He has participated in several innovation projects. He has actively participated as a member of the organizing committee and PC member in JENUI conferences since 2011.

3. Research internationalization: He has done one predoctoral research stay at the prestigious HPI of the University of Postdam under the supervision of Prof. Christof Meinel (h-index 67), and 2 postdoctoral research stays at Universities of Almeria and Huelva. He has publications with 8 outstanding researchers: Paolo Ceravolo (Università degli Studi di Milan), Robin Bergenthum (Fernuni Hagen, Germany), Salvador Martínez Perez (CEA-List LISE lab, Paris-Saclay, France), Rui Abreu (Universidade do Porto), Robert Warschofsky (Hasso Plattner Institute, Potsdam, Germany), Christoph Meinel (Hasso Plattner Institute, Potsdam, Germany), Moe Thandar Wynn (Queensland University of Technology, Australia), Jordi Cabot (Luxembourg Institute of Science and Technology (LIST)).

C.1. Publications (*see instructions*)

1. Blanco, Carlos, et al. "Onto-CARMEN: Ontology-driven approach for Cyber-Physical System Security Requirements meta-modelling and reasoning." *Internet of Things* 24 (2023): 100989. Impact: JCR 5.9 Rank 35/158, (COMPUTER SCIENCE, INFORMATION SYSTEMS Q1)
2. Varela-Vaca, Ángel Jesús, et al. "Automated trusted collaborative processes through blockchain & IoT integration: The fraud detection case." *Internet of Things* (2024): 101106. Impact: JCR 5.9 Rank 35/158, (COMPUTER SCIENCE, INFORMATION SYSTEMS Q1)
3. Germán Márquez, A., et al. "Vulnerability impact analysis in software project dependencies based on Satisfiability Modulo Theories (SMT)." (2024). Impact: JCR 5.6 Rank 41/158, (COMPUTER SCIENCE, INFORMATION SYSTEMS Q2)
4. Varela-Vaca AJ, Borrego D, Gómez-López MT, Gasca RM, Márquez AG. Feature models to boost the vulnerability management process. *Journal of Systems and Software*. 2023 Jan 1;195:111541. Impact: JCR 3.514 Rank 29/110, (COMPUTER SCIENCE, SOFTWARE ENGINEERING Q2)
5. Antonia M Reina Quintero, Salvador, Martínez Pérez, Ángel Jesús Varela -Vaca, María Teresa Gómez López, Jordi Cabot. A domain-specific language for the specification of UCON policies. *Journal of Information Security and Applications*. 64:103006. 2022. DOI: 10.1016/j.jisa.2021.103006. Impact: JCR 3.872 Rank 56/162, (Computer Science, Information Systems Q2)
6. Ángel Jesús Varela-Vaca, David G. Rosado, Luis E. Sánchez, María Teresa Gómez-López, Rafael M. Gasca, and Eduardo Fernández-Medina. CARMEN: A framework for the verification and diagnosis of the specification of security requirements in cyber-physical systems. *Computers in industry*, 132:103524, 2021. DOI: 10.1016/j.compind.2021.103524. Impact: JCR 7.635 Rank 9/110, (Computer Science, interdisciplinary applications Q1)
7. Ángel Jesús Varela-Vaca, Antonia M. Reina. Smart Contract Languages: A Multivocal Mapping Study. *ACM Computer Surveys*, 54:1, DOI: 10.1145/3423166, 2021. Impact: JCR 10.282 Rank 4/108, (Computer Science Theory & Methods, Q1)
8. Francisco J. Haro-Olmo, José Antonio Alvarez-Bermejo, Ángel Jesús Varela-Vaca, and J.A. López-Ramos. Blockchain-based federation of wireless sensor nodes. *The Journal of supercomputing*, pages 1-13, 2021. DOI: 10.1007/s11227-020-03605-3. Impact: JCR 2.474 Rank 33/110, (Computer Science, Theory & Methods, Q2)
9. Belén Ramos-Gutiérrez, Ángel Jesús Varela-Vaca, José A. Galindo, María Teresa Gómez-López, and David Benavides. Discovering configuration workflows from existing logs using process mining. *Empirical Software Engineering*, 2021. DOI: 10.1007/s10664-020-09911-x. Impact: JCR 2.522 Rank 40/108, (Computer Science, Software Engineering, Q2)
10. Álvaro Valencia-Parra, Luisa Parody, Ángel Jesús Varela-Vaca, Ismael Caballero, and María Teresa Gómez-López. DMN4DQ: When data quality meets DMN. *Decision support systems*, page 113450, 2021. DOI: 10.1016/j.dss.2021.113450 Impact: JCR 5.795 Rank 27/162, (Computer Science, Information Systems, Q1)

11. Álvaro Valencia-Parra, Ángel Jesús Varela-Vaca, María Teresa Gómez-López, Josep Carmona, Robin Bergenthum. Empowering conformance checking using Big Data through horizontal decomposition. *Information Systems*. 99: 101731. 2021. DOI: 10.1016/j.is.2021.101731. Impact: JCR 2.309 Rank 97/162, (Computer Science, Information Systems, Q3)
12. Álvaro Valencia-Parra, Ángel Jesús Varela-Vaca, Luisa Parody, and María Teresa Gómez-López. Unleashing constraint optimisation problem solving in big data environments. *Journal of computational science*, 45:101180, 2020. DOI: Impact: JCR 3.976 Rank 18/110, (Computer Science Theory & Methods, Q1)
13. Francisco José de Haro-Olmo, Ángel Jesús Varela-Vaca, José Antonio Álvarez-Bermejo. Blockchain from the perspective of privacy and anonymisation: a systematic literature review. *Sensors*. 20(24):7171.2020. DOI: 10.3390/s20247171. Impact: JCR 3.576 Rank 35/156, (Instruments & instrumentation, Q1)
14. Ángel Jesús Varela-Vaca, Luisa Parody, Rafael M. Gasca, and María Teresa Gómez-López. Automatic verification and diagnosis of security risk assessments in business process models. *IEEE Access*, 7:26448-26465, 2019. DOI: 10.1109/ACCESS.2019.2901408 Impact: JCR 3.745 Rank 35/156, (Computer Science, Information Systems, Q1)
15. Angel Jesus Varela-Vaca and Rafael M. Gasca, Towards the Automatic and Optimal Selection of Risk Treatments for Business Processes using a Constraint Programming Approach, *Information and Software Technology*, Volume 55, Issue 11, Pages 1948–1973, 2013. DOI: 10.1016/j.infsof.2013.05.007. Impact: 1.328 Rank 31/105 (Computer Science & Software Engineering, Q2)
16. Ángel Jesús Varela-Vaca, Rafael M. Gasca. Formalization of security patterns as a means to infer security controls in business processes. *Logic Journal of the IGPL*. 23:1. 2013. DOI: 10.1093/jigpal/jzu042. Impact: 0.434 Rank 18/22 (Logic, Q4)
17. Sergio Pozo, Rafael M. Gasca, Antonia M. Reina, Angel Jesus Varela-Vaca. CONFIDENT: A model-driven consistent and non-redundant layer-3 firewall ACL design, development and maintenance framework, *Journal of Systems and Software*, 85(2). 2012. DOI: 10.1016/j.jss.2011.09.008. Impact: 1.135 Rank 30/100 (Computer Science, Theory & Methods, Q2)
18. Ángel Jesús Varela-Vaca, Rafael M. Gasca, Jose Antonio Carmona-Fombella, María Teresa Gómez López: AMADEUS: towards the AutoMAted secUrity teSting. *SPLC (A)* 2020: 11:1-11:12. DOI: 10.1145/3382025.3414952. GII-GRIN-SCIE-Rating: Class 2
19. Álvaro Valencia-Parra, Ángel Jesús Varela-Vaca, María Teresa Gómez López, Paolo Ceravolo: CHAMALEON: Framework to improve Data Wrangling with Complex Data. *ICIS* 2019. DOI: ISBN 978-0-9966831-9-7. GII-GRIN-SCIE-Rating: Class 2
20. Ángel Jesús Varela-Vaca, José Angel Galindo, Belén Ramos-Gutiérrez, María Teresa Gómez López, David Benavides: Process mining to unleash variability management: discovering configuration workflows using logs. *SPLC (A)* 2019: 37:1-37:12. DOI: 10.1145/3336294.3336303. GII-GRIN-SCIE-Rating: Class 2
21. Fernández, Vanessa Pradas, Ángel Jesús Varela-Vaca, and María Teresa Gómez-López. "Revealing the Importance of Setting Parameters in Declarative Discovery Algorithms: An Evolutionary-Based Methodology." *International Conference on Advanced Information Systems Engineering*. 2023. GII-GRIN-SCIE-Rating: Class 2

C.2. Research projects

1. TED2021-130355B-C32, ALBA-US: MEJORA DE LA CIBERSEGURIDAD Y SU SOSTENIBILIDAD EN BENEFICIO DE LA SOCIEDAD Y DE LAS PERSONAS. Entidades participantes: Universidad de Sevilla, UCLM, Cantabria. Duración, desde: 01-12-2022 – 31-12-2024; P.I.: María Teresa Gómez López/Ángel J. Varela Vaca, Importe: 223.330,00 € Tipo participación: IP.
2. PID2020-112540RB-C44, Aether-US: Una aproximación holística de smart data para el análisis de datos guiado por el contexto: procesos de negocio inteligentes. Ministerio de Ciencia e Innovación. Entidades participantes: Universidad de Sevilla, Duración, desde: 01-

- 01-2021 – 31-08-2025; P.I.: María Teresa Gómez López/Ángel J. Varela Vaca, Num. de investigadores: 14, Importe: 221.672,00€ Tipo participación: IP.
3. P20_01224, COPENICA: Colaboración en procesos de negocio para el buen gobierno de servicios y datos compartidos. Consejería de Economía, Conocimiento, Empresas y Universidad. Entidades participantes: Universidad de Sevilla, Duración, desde: 05-10-2021 - 31-12-2022; P.I.: María Teresa Gómez López/, Num. de investigadores: 18, Importe: 164.100,00€ Tipo participación: Investigador.
 4. PY18-1497, METAMORFOSIS: Marco de Transformación digital Mediante Customización software sobre gestión de datos, procesos de negocio y gobierno de la Seguridad. Fondos FEDER / PAIDI 2020: Proyectos I+D+i. Entidades participantes: Universidad de Sevilla, Duración, desde: 05-10-2021 - 31-12-2022; P.I.: María Teresa Gómez López/David Benavides, Num. de investigadores: 18, Importe: 90.000 ,00 € Tipo participación: Investigador.
 5. RTI2018-094283-B-C33, Eclipse - Mejora de la Calidad de Datos y la Seguridad en Sistemas Ciberfísicos para Enriquecer los Procesos de Negocio y las Decisiones Estratégicas. Ministerio de Ciencia, Innovación y Universidades. Entidades participantes: Universidad de Sevilla, Duración, desde: 01-01-2019 –31/12/2020, P.I.: María Teresa Gómez López, Num. de investigadores: 7, Importe: 96.558€ Tipo participación: Investigador.

C.3. Contracts, technological or transfer merits

1. APOGEUS – Proyecto de Colaboración y para Gobierno y Gestión de Cumplimiento de LOPDGD y ENS en la Universidad de Sevilla. Tipo de contrato: Artículo 83 – Contrato I+D Entidades participantes: Servicio de Informática y Comunicaciones de la Universidad de Sevilla Duración: 01/07/2019 - 31/12/2020 P.I. Ángel Jesús Varela Vaca. Importe: 13.838,00€. Tipo de participación: IP.
2. PARGEUS – Proyecto de Colaboración para la nueva Ley Orgánica de Protección de Datos Personales y Garantía de los Derechos Digitales en la Universidad de Sevilla. Tipo de contrato: Artículo 83 – Contrato I+D Entidades participantes: Servicio de Informática y Comunicaciones de la Universidad de Sevilla Duración: 01/07/2019 to 31/12/2020 P.I. Ángel Jesús Varela Vaca. Importe: 14.560,00 €. Tipo de participación: IP.
3. GENSUS – Proyecto de Colaboración para el gobierno y la gestión del cumplimiento del ENS en la Universidad de Sevilla. Tipo de contrato: Artículo 83 – Contrato I+D Entidades participantes: Servicio de Informática y Comunicaciones de la Universidad de Sevilla Duración: Marzo de 2020 - Diciembre 2020 P.I. Ángel Jesús Varela Vaca. Importe: 7.450,00 € Tipo de participación: IP.
4. Wonder – Diseño y Desarrollo de Plataforma ciega intermodal de reposición de incidencias y reasignación de envíos para el sector logístico. Tipo de contrato: Artículo 83 – Contrato I+D. Entidades participantes OnTime Transporte y Logística Integral SL. y Universidad de Sevilla Duración: 01/01/2015 - 30/07/2015 P.I. Ángel Jesús Varela Vaca. Importe: 12.752€. Tipo de participación: IP.

C.5. Estancias en centros de investigación

Predocctoral Research Stay. Hasso-Plattner Institute (Universidad de Potsdam). 3 months
Predocctoral Research Stay. Universidad de Huelva, España. 3 months.
Postdoctoral Research Stay. Universidad de Almería España. 4 months.

C.6. Becas FPI

Grant for the Training of Research Staff Excellence Research Projects TIC-4095 Project, obtained in public competition of merit in the resolution 10/02/2009, BOJA No. 47 of March 10, 2009. Duration of the grant: 4 years predoctoral (1 year of grant and 3 years-contract from 2009 to 2013) and 1 postdoctoral year (2014-2015).