MINISTERIO
DE CIENCIA, INNOVACIÓN
Y UNIVERSIDADES

AGENCIA
ESTATAL DE
INVESTIGACIÓN

CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

CV date	02/07/2025

A.0 Personal Information

Name	Ángel Jesús Varela Vaca

A.1. Current position

Position	Associate Professor
Initial date	02/02/2022
Institution	Universidad de Sevilla
Department/Center	Lenguajes y Sistemas Informáticos
Country	Spain
Key words	Inteligencia Artificial, Informática, Sistemas de Información, Procesos de Negocio, Seguridad Informática

A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	**Position/Institution/Country/Interruption cause**
2016-2022	Assistant professor
2014-2016	Temporary professor

A.3. Education

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

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Supervised theses	3
Sexenios	2

Citas Scopus/Google (W/GS)	452/ 837
Projects led public/private	2/5

Ángel J. Varela Vaca holds a PhD in Computer Engineering from the University of Seville, where he also obtained his Bachelor's degree in Computer Engineering (2008) and Master's degree in Computer Science (2009). He was awarded a research training contract from the Junta de Andalucía for a total of 5 years (4 predoctoral and 1 postdoctoral) from 2010 to 2014, at the Department of Languages and Computer Systems. He was promoted to Assistant Professor in 2014, a position he held until 2021. In 2022, he was promoted to Associate Professor, where he currently serves.

B1. Scientific papers: He has more than 50 publications (27 JCR Q1-Q2). He has over 25 conferences and workshop publications, with two in class 4 GII-GRIN-SCIE-Rating, 4 book editions, 3 book chapters, and 2 other publications in non-indexed journals. His number of citations and H-index are:

- Web of Science: 307 times cited and H-index: 9
- Scopus: 452 times cited and H-index: 12.
- Google Scholar: 837 times cited and H-index: 17

B2. Social impact:

His articles and publications have had a significant social impact, as they have been mentioned, used, and read over 200,000 times on social media and other platforms, according to PlumX, Altmetrics, and Dimensions. One of his contributions, “CARMEN: A Framework for the Verification and Diagnosis of the Specification of Security Requirements in Cyber-Physical Systems,” has been awarded several prizes, including Best Paper in Cybersecurity and Cyberdefense at SISTEDES 2022. Additionally, the supervised Master's Thesis titled “Técnica basada en modelos de características para validar y diagnosticar la configuración de un sistema cliente-servidor de autenticación e identificación biométrica” received awards as the Best Master's Thesis at both SISTEDES 2023 and JNIC 2023. In terms of projects, he has participated as a researcher in 6 national and 3 regional competitive projects, and has been responsible for 2 national projects. He has also participated in over 10 transfer projects (Art. 83/68), 6 of which as the principal investigator and another 5 as a collaborating researcher.

B3. Training of young researchers:

He has supervised more than 70 end Bachelor and Master Thesis. He was the supervisor of 3 theses in the fields of Business Process and Cybersecurity fields, and currently, he is the director of three theses:

- Álvaro Valencia Parra (2022, International Cum Laude) Topis. Business processes and Data Quality
- Francisco José de Haro (2024, Cum Laude). Topis. IoT, Blockchain and Security.
- Antonio German Trujillo (2025). Topics. Security and Software development.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Most important publications in books and journals with "peer review" and in conferences *(see instructions).*

Ángel Jesús Varela-Vaca, María Teresa Gómez-López, Yolanda Morales Zamora, Rafael M. Gasca: Business process models and simulation to enable GDPR compliance. Int. J. Inf. Sec. 24(1): 41 (2025) (COMPUTER SCIENCE, SOFTWARE ENGINEERING, 57/132, Q2)
Blanco, C., Rosado, D. G., Varela-Vaca, Á. J., Gómez-López, M. T., & Fernández-Medina, E. (2023). Onto-CARMEN: ontology-driven approach for cyber–physical system security requirements meta-modelling and reasoning. Internet of Things, 24, 100989. Impact: JCR 5.9 Rank 35/158, (COMPUTER SCIENCE, INFORMATION SYSTEMS Q1)

David Garcia Rosado, Luis Enrique Sánchez, Ángel Jesús Varela-Vaca, Antonio Santos-Olmo, María Teresa Gómez-López, Rafael M. Gasca, Eduardo Fernández-Medina: Enabling security risk assessment and management for business process models. J. Inf. Secur. Appl. 84: 103829 (2024) (COMPUTER SCIENCE, INFORMATION SYSTEMS, 70/250, Q2).

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)

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)

Varela-Vaca ÁJ, 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 3.514Rank 29/110, (COMPUTER SCIENCE, SOFTWARE ENGINEERING Q2)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

C.2. Congress.

Main track paper: 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

Main track paper: 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

Main track paper: 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

Main track paper: 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

C.3. Projects or research lines in which you have participated.

TED2021-130355B-C32 - Mejora de la ciberseguridAd y su sostenibiLidad en Beneficio de la sociedad y de las personas. Duration, from: 01/12/2022 to: 30/11/2024, PI: María Teresa Gómez López

PID2020-112540RB-C44, Aether-US: A holistic smart data approach to context-driven data analysis: intelligent business processes. Duration, from: 01/01/2021 to: 31/12/2024, PI: María Teresa Gómez López

US-1381375, METAMORFOSIS: Digital Transformation Framework Through soFtware Customization on data management, business procedures and security governance. Duration, from: 01/01/2022 to: 31/12/2022, PI: María Teresa Gómez López

RTI2018-094283-B-C33, ECLIPSE - Enhancing Data Quality and Security for Improving Business Processes and Strategic Decisions in Cyber-Physical Systems. Duration, from: 01/01/2019 to: 31/12/2020, PI: María Teresa Gómez López

C.4. Participation in technology/knowledge transfer activities and exploitation of results.

APOGEUS – Proyecto de Colaboración y para Gobierno y Gestión de Cumplimiento de LOPDGDD 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: PI.

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: PI.

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: PI.