Part A. PERSONAL INFORMATION

		CV date	10/2022

First name	David		
Family name	Benavides Cuevas		

(*) Mandatory

A.1. Current position

Position	Catedrático de Universidad		
Initial date	27/12/2021		
Institution	Universidad de Sevilla		
Department/Center	Lenguajes y Sistemas Informáticos	ETSI Informática	
Country	Spain		
Key words	Customization, configurability, variability, software engineering, software product lines		

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

Period	Position/Institution/Country/Interruption cause
2010-2021	Profesor Titular de Universidad/U. Sevilla/Spain
2008-2010	Profesor Contratado Doctor/U. Sevilla/Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Ingeniero en Informática	U. Sevilla /Spain	2001
Doctor en Informática	U. Sevilla /Spain	2007

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

- 3 *sexenios* of research: 2002-2007, 2008-2013 and 2014-2019
- 1 *sexenio* of technology transfer
- 6 theses supervised. 2 with extraordinary prize and one with national prize.
- According to Google Scholar (GS) 7.097 citations, H index of 35 and i-10 of 73.
- According to GS since 2017 2.453 citations, H index of 25 and i-10 of 51 (https://goo.gl/6MBIKl).
- In Web of Science (WoS) 1.450 citations, H index of 16.
- 30 articles published in JCR indexed journals. According to GS, 10 of the articles have more than 50 citations. One of them has more than 1.500 citations.
- 12 articles GII-GRIN-SCIE class ½ ranked conferences.
- Editor of 2 special issues in journals, both indexed in JCR.
- Participation in 16 R&D Projects since 2002 (2 as PI in a national project) obtained in competitive calls: 6 Junta de Andalucía, 7 Plan Nacional, 2 European, 3 national networks.

David Benavides began his professional career in 2002 at Telvent/Abengoa. His first research steps focused on Software Product Lines (SPLs) and Feature Models (FM) which are models that represent an abstraction of an SPL. FMs were presented in 1990 by Kang *et al*. The main contribution of Benavides has been to interpret an FM in terms of logical clauses to carry out analysis operations. This contribution has opened a new line of research: Automated Analysis of Feature Models (AAFM) which has been recognized as one of the most influential in the area in recent decades. He wrote and defended his doctoral with the highest qualification, mention of European doctorate and extraordinary doctorate award. During the development of the doctoral thesis he visited 3 research centres: CIMAT, Mexico; 4C in Ireland, and U. of

Oxford. In the postdoctoral stage, he visited Ecuador (2013) for 4 months where he combined the university with a stay in a large public software company. He opened agreements with Universities that have allowed him to attract doctoral students to his school's program (currently 6 and 3 already graduated).

In technology transfer, he has leaded the development of FaMa (https://github.com/famaw), a registered software tool for the AAFM that is very well known in the area. FaMa is used by different companies, universities and public administrations both in Spain and in countries such as the USA and France. It is also part of the development team of BeTTy and TESALIA, results of the doctoral theses of Sergio Segura and José A. Galindo, former PhD students of the applicant. Now, he is part of the development team of FLAMA, a Python version of the tool with an international development board.

One of the works (CAISE, 2005) can be considered as the contribution that generated the research line of AAFM. In this work it was exposed how an FM could be interpreted as a constraint programming problem which opened the door to the AAFM research field. This work has been cited more than 920 times, being this publication the most influential, i.e., the one that has received more citations of that edition of this conference. It has also been awarded the "Most Influential Paper Award" (MIP) which is an award for impact over time[1]. Another 2 papers received the best article award at the SPLC 2008 and 2021 conferences, the main conference in its area. Also, a paper at VaMoS has been awarded as the MIP in the area of configurability[2]. He has collaborated with more than 40 external authors of different Universities in prestigious conferences and journals.

He is one of the pioneering researchers in SPLs at a national level and has prestige at a European and global level. He has been chair of the program committee of the SPLC'12 conference and general chair of VaMoS '09 and SPLC'17. From 2018 to 2022, he was the chair of the steering committee of SPLC. He also has participated in different committees of more than 50 international events. He participates in review committees of more than 10 JCR journals; He has participated in the board of several international and national doctoral theses. He coordinates the DiversoLab on variability and configurability within his research group. He is currently directing three doctoral theses of Latin American students as well as another one in the modality of "industrial PhD". He has attracted 2 Juan de la Cierva fellows. He got the *acreditación* as *Catedrático de Universidad* from Jan 2020 and is a *Catedrático de Universidad* since Dec 2021. His teaching and research trajectory have always been in ascending progression in terms of results obtained.

Part C. RELEVANT MERITS *(sorted by typology)*
C.1. Publications (selection of 10)

1. Ruben Heradio, David Fernández-Amorós, José A. Galindo, David Benavides, Don S. Batory: Uniform and scalable sampling of highly configurable systems. Empir. Softw. Eng. 27(2): 44 (2022) doi: 10.1007/s10664-021-10102-5

2. Belén Ramos-Gutiérrez, Ángel J. Varela-Vaca, José A. Galindo, María Teresa Gómez López, David Benavides: Discovering configuration workflows from existing logs using process mining. Empir. Softw. Eng. 26(1): 11 (2021) doi: 10.1007/s10664-020-09911-x

3. Mauricio Alférez, Mathieu Acher, José A. Galindo, Benoit Baudry, David Benavides: Modeling variability in the video domain: language and experience report. Software Quality Journal 27(1): 307-347 (2019) doi: 10.1007/s11219-017-9400-8

4. Amador Durán, David Benavides, Sergio Segura, Pablo Trinidad and Antonio Ruiz-Cortés FLAME: a Formal Framework for the Automated Analysis of Software Product Lines Validated by Automated Specification Testing. Software and System Modeling.(2017) doi:10.1007/s10270-015-0503-z

5. José A. Galindo, Hamilton A. Turner, David Benavides, Jules White:Testing variability-intensive systems using automated analysis: an application to Android. Software Quality Journal 24(2): 365-405 (2016) doi:10.1007/s11219-014-9258-y

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1 http://canalciencia.us.es/un-trabajo-de-la-us-elegido-como-el-articulo-mas-influyente-en-el-area-de-ingenieria-de-lineas-de-producto-software/

2 http://canalciencia.us.es/un-trabajo-de-la-us-galardonado-como-el-articulo-mas-influyente-en-el-area-de-configurabilidad-del-software/

6. José A. Galindo, D. Dhungana, R. Rabiser, D. Benavides, G. Botterweck , P. Grünbacher. Supporting distributed product configuration by integrating heterogeneous variability modeling approaches. Information and Software Technology 62: 78-100 (2015) doi:10.1016/j.infsof.2015.02.002
7. R. Lopez-Herrejon, L. Linsbauer, J. Galindo, J. Parejo, D. Benavides, S. Segura, A. Egyed. An assessment of search-based techniques for reverse engineering feature models. Journal of Systems and Software 103: 353-369 (2015) doi:10.1016/j.jss.2014.10.037
8. Sergio Segura, José A. Parejo, Robert M. Hierons, David Benavides and Antonio Ruiz Cortés. Automated Generation of Hard Feature Models using Evolutionary Algorithms. Expert Syst. Appl. 41(8): 3975-3992 (2014) doi:10.1016/j.eswa.2013.12.028
9. D. Benavides, S. Segura, A. Ruiz-Cortés, "Automated Analysis of Feature Models after 20 years: A Literature Review", Information Systems, 35(2010): 615-636, 2010. doi:10.1016/j.is.2010.01.001 (*highly cited item*)
10. D. Batory, D. Benavides, A. Ruiz-Cortés, "Automated Analysis of Feature Models: Challenges Ahead", Communications of the ACM, 49(12): 45-47, December, 2006. doi:10.1145/1183236.1183264 (*highly cited item*)

C.2. Congress

1. José Miguel Horcas, José A. Galindo, David Benavides: Variability in data visualization: a software product line approach. SPLC (A) 2022: 55-66 (2022) doi:10.1145/3546932.3546993
2. José Miguel Horcas, José A. Galindo, Ruben Heradio , David Fernández-Amorós , David Benavides: Monte Carlo tree search for feature model analyses: a general framework for decision-making. SPLC (A) 2021: 190-201 (2021) doi: 10.1145/3461001.3471146
3. Jules White, Douglas C. Schmidt, David Benavi des, Pablo Trinidad, Antonio Ruiz Cortés: Automated Diagnosis of Product-Line Configuration Errors in Feature Models. SPLC 2008: 225-234 doi: 10.1109/SPLC.2008.16
4. David Benavides, Sergio Segura, Pablo Trinidad, Antonio Ruiz Cortés: FAMA: Tooling a Framework for the Automated Analysis of Feature Models. VaMoS 2007: 129-134
5. David Benavides, Pablo Trinidad Martín-Arroyo, Antonio Ruiz Cortés: Automated Reasoning on Feature Models. CAiSE 2005: 491-503 doi: 10.1007/11431855_34

C.3. Research projects

7. THEOS. Tecnologías Habilitadoras para EcOsistemas Software. Consejería Innovación, Ciencia y Empresa, Junta de Andalucía (Proyectos de Excelencia, TIC-5906). 15/03/11-14/03/15. 260.621 €. IP: ARC

8. SETI. reSearching on intElligent Tools for the Internet of services. Ministerio de Ciencia e Innovación (TIN2009-07366). 01/10/09-30/09/12. 176.902 €. IP: ARC.

9. ISABEL. Ingeniería de Sistemas Abiertos Basada en LínEas de productos. Consejería Innovación, Ciencia y Empresa, Junta de Andalucía (Proyectos de Excelencia, TIC-2533). 01/02/07-31/12/12. 410.421€. IP: ARC

10. WEB-FACTORIES. Fábricas Software para Sistemas con Arquitectura Orientada a Servicios Web. Ministerio de Ciencia y Tecnología (TIN2006-00472). 01/10/06-30/09/09. 229.200 €. IP: ARC

C.4. Contracts, technological or transfer merits

1. FAMILIES" (Ref. FIT-070000-2003-289), Programa PROFIT e ITEA a través de la fundación Fidetia, Empresa: Telvent Interactiva. Duración: Sep 2003 - Aug 2005, IP. David Benavides por la US, cuantía: 23.309 €.

2. "FRADA" (Ref. FIT-070000-2003-401), Programa PROFIT a través de la fundación Fidetia, Empresa: Telvent Interactiva. Duración: Dec 2003 - Nov 2004, IP. David Benavides por la US, cuantía: 12.020 €.

3. "WERBPLUS" (Ref. FIT-150100-2001-7), Programa PROFIT a través de la fundación Fidetia, Empresa: Telvent Interactiva. Duración: Feb 2001 - Feb 2003, IP. David Benavides por la US, cuantía: 12.020 €.

1. "FAMA Tool Suite – SPL reasoner" (Ref. 2007-12-21), Programa de software registrado a través del servicio de investigación de la universidad, Empresas. Autores: Benavides Cuevas, David, Segura Rueda, Sergio, Trinidad Martín-Arroyo, Pablo, Ruiz Cortés, Antonio.

2. "Betty framework" (Ref. 2011-01-24), Programa de software registrado a través del servicio de investigación de la universidad, Empresas. Autores: Segura Rueda, Sergio, Galindo Duarte, José Ángel, Trinidad Martín-Arroyo, Pablo, Benavides Cuevas, David, Ruiz Cortés, Antonio

3. "TESALIA" (Ref. 2017-04-18), Programa de software registrado a través del servicio de investigación de la universidad, Empresas. Autores: Galindo Duarte, José Ángel, Benavides Cuevas, David.

C.5 Community service (selection)

- SPLC 2009-2023. International Software Product Line Conference. (PC member, Doctoral Symposium panel member, Publicity co-chair, PC chair, General chair, Steering Committee chair, MIP chair)
- VaMoS 2009-2023. International Workshop on Variability Modelling of Software-intensive Systems.(PC member/ PC chair)
- EUROMICRO DSD/SEAA 2016/2015/2014. 42nd Euromicro Conference on Software Engineering and Advanced Applications (PC member)
- QRS 2017/2020. IEEE International Conference on Software Quality, Reliability & Security (PC member)
- JISBD 2013-2022. XXI Jornadas de Ingeniería del Software y Bases de Datos (Track chair, PC member)
- FASE 2015. 18th International Conference on Fundamental Approaches to Software Engineering. (PC member)