

CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	Susana Irene		
Family name	Díaz Rodríguez		
Gender (*)	Female	Birth date (dd/mm/yyyy)	03/02/1973
Social Security, Passport, ID number	09408378k		
e-mail	sirene@uniovi.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-3024-6605	

(*) Mandatory

A.1. Current position

Position	Catedrática de Universidad/ Full Professor		
Initial date	21/08/2019		
Institution	University of Oviedo		
Department/Center	Computer Science		
Country	Spain	Teleph. number	+34985182665
Key words	Artificial Intelligence, data fusion, image processing, biomedicine		

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

Period	Position/Institution/Country/Interruption cause
22/03/2008-20/08/2019	Associate professor/Profesor Titular/University of Oviedo/Spain
01/07/2006-21/03/2008	Profesor Contratado Doctor/University of Oviedo/Spain
01/12/1999-30/06/2006	Profesor Asociado a Tiempo Completo/University of Oviedo/Spain
01/10/1997-30/11/1999	Profesor Ayudante de Escuela Universitaria/Universidad Carlos III

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Bachelor in Mathematics	University of Oviedo	1995
PhD in Computer Science	University Carlos III de Madrid	2001

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

My academic and research activity has focused on Artificial Intelligence since the beginning of my professional career in 1997. Most of my scientific contributions have been disseminated through publications (75) in journals indexed in the Science Citation Index (40 are in the first quartile. 56 have been developed in the last 10 years). In addition, I have presented more than 100 communications at relevant conferences, indexed at CORE and SCIE rankings. I have also contributed to more than 20 book chapters. All these publications have focused on two main areas, the development of theoretical models and methods for data fusion and their application in various fields such as biomedicine, agriculture, or image analysis. Some of these works have been awarded prizes at leading conferences in the field. All my research activity has been developed thanks to the funding received through 26 research projects, obtained in competitive concurrence. I have participated in a European project (FP4-ESPRIT 4). At the national level, I have participated in several projects with full time dedication, being principal

researcher in some of them. I have participated also in 4 research projects funded by the Asturias Government. In all the projects I was responsible for specific packages. In those in which I was principal researcher, I have been responsible for project coordination. Internationalisation is another important aspect of my activity, maintaining ongoing collaborations that have materialised both in stays carried out by and in the capacity to attract foreign researchers. My h-index is 19 (Google Scholar).

In addition to the dissemination of research through standard channels, I have participated in various dissemination activities at international level, such as the "Festa del Vino" of Solopaca (Italy) in 2017, where I have advised about the application of artificial intelligence to viticulture. At the national level I have participated in various activities related to the dissemination of computer science such as round focused on increasing women visibility in STEM fields or in activities such as the hour of code. I have also participated in two TEMPUS projects with the aim of modernizing and strengthening teaching competences in higher education in Natural and Mathematical Sciences. At a regional level I collaborate with organizations such as NewNorth, Conecta Industria or Asturias Power.

With regard to my collaboration with industry and the private sector or other entities, public institutions and other end-users of the research, I am the principal investigator of contracts between the University of Oviedo (article 83 LOU) and the companies UpIntelligence, Maybe, SERESCO, Metalux, TSK and Cementera Tudela Veguín. These activities have been recognised with a six-year transfer period.

On the other hand, one of the constants of my work as a researcher has been the training of researchers. I have supervised more than 100 TFG and TFM and 7 doctoral theses (one of them in co-supervision with the University of Ghent (Belgium) and two with the University Nacional del Nordeste (Argentina)), plus another 3 that I am currently supervising. The 7 PhDs I have supervised have developed a successful career in different companies (2) or in the University (5).

I have also contributed to research dissemination and management as program chair of the Joint 17th World Congress of International Fuzzy Systems Association held in Otsu (Japan) in 2017, and the 2ND International Conference on Deep Learning, Artificial Intelligence and Robotics, ICDLAIR2020. I have been also the program chair of the national conference on Information Retrieval (CERI 2016). In addition, I belong to a large number of program committees of relevant conferences, I have acted as guest editor of special issues in JCR-indexed journals and I am an associate editor of two springer journals: the Journal of Ambient Intelligence and Humanized Computing and the Soft Computing journal. Regarding research evaluation and management activities, I am an evaluator of research projects for AEI (State Research Agency) and SRDA (Slovak Research and Development Agency), of the Euroinf label and for the teaching and evaluation division for ANECA, of the teaching, research and management activity of the teaching and research staff of the Andalusian Public Universities for AAC (Andalusian Knowledge Agency). I have also participated as evaluator of several programs for the Agency for the Quality of the Galician University System.

Finally, I would like to highlight that I have 4 six-period of research positive evaluated and since October 2020 I am Director of the Department of Computer Science at the University of Oviedo.

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

C.1. Publications *(see instructions)*

1. Noelia Rico, Camino R Vela, Irene Díaz. Reducing the time required to find the Kemeny ranking by exploiting a necessary condition for being a winner. *European Journal of Operational Research* 305 (3), 1323-1336 (2023)
2. Noelia Rico, Pedro Huidobro, Agustina Bouchet, Irene Díaz. Similarity measures for interval-valued fuzzy sets based on average embeddings and its application to hierarchical clustering. *Information Sciences* 615, 794-812 (2022)
3. Ana G. Rua, Noelia Rico, Ana Alonso, Elena Díaz, Irene Díaz. Ranking the effect of chronodisruption-based biomarkers in reproductive health. *Neural Computing and Applications*, 1-24 (2022)
4. Noelia Rico, Camino R. Vela, Irene Díaz. Runtime bounds prediction for the Kemeny problem. *Journal of Ambient Intelligence and Humanized Computing*, 1-11 (2022)
5. Juan Baz, Irene Díaz, Susana Montes, Raúl Pérez-Fernández. Some results on the Gaussian Markov Random Field construction problem based on the use of invariant subgraphs. *TEST*, 1-19 (2022)
6. Raúl Pérez-Fernández, Gustavo Ochoa, Susana Montes, Irene Díaz, Javier Fernández, Daniel Paternain, Humberto Bustince: Axiomatization and construction of orness measures for aggregation functions. *Int. J. Intell. Syst.* 36(5): 2208-2228 (2021)
7. Agustina Bouchet, Susana Montes, Virginia L. Ballarin, Irene Díaz. Intuitionistic fuzzy set and fuzzy mathematical morphology applied to color leukocytes segmentation. *Signal, Image and Video Processing*. 14(3): 557-564 (2020)
8. Humberto Bustince, A. Kolesarova, Gracaliz Dimuro, Irene Díaz, Javier Fernández, Radko Mesiar, Susana Montes. On some classes of directionally monotone functions. *Fuzzy Sets and Systems*, 386: 161-178 (2020)
9. Agustina Bouchet, Pedro Alonso, Juan Ignacio Pastore, Susana Montes Irene Díaz. Fuzzy Mathematical Morphology for color images defined by fuzzy preference relations. *Pattern Recognition*, 60, 720-733 (2016)
10. Raúl Pérez-Fernández, Michael Rademaker, Pedro Alonso, Irene Díaz, Susana Montes, Bernard De Baets. Representations of votes facilitating monotonicity-based ranking rules: from votrix to votex. *International Journal of Approximate Reasoning*, vol. 73, pp. 87–107, 2016

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. Noelia Rico, Irene Díaz. A more informed clustering algorithm through the aggregation of linkage methods. WCCI2022. Padua (Italy), July 18-23. Oral Presentation.
2. Pedro Huidobro, Noelia Rico, Agustina Bouchet, Susana Montes, Irene Díaz, I. A New Similarity Measure for Real Intervals to Solve the Aliasing Problem. IPMU 2022. Milan (Italy), July 11-15. Oral Presentation
3. Juan Baz, Diego García-Zamora, Irene Díaz, Susana Montes, Luis Martínez. Flexible-Dimensional EVR-OWA as Mean Estimator for Symmetric Distributions. IPMU 2022. Milan (Italy), July 11-15. Oral Presentation
4. Noelia Rico, Luigi Troiano, Irene Díaz. An Efficient Computation of Dempster-Shafer Theory of Evidence Based on Native GPU Implementation. BELIEF 2021, Shanghai (China) October 15-17. Oral Presentation
5. Ana G. Rúa, Noelia Rico-Pachón, Ana Alonso, Elena Díaz, S. Irene Díaz-Rodríguez: On the identification of chronodisruption-based biomarkers to estimate pregnancy attempt time. IEEE CBMS 2021: 413-419. Online event June 7-9. Oral Presentation
6. Noelia Rico, Raúl Pérez-Fernández, Irene Díaz: The Borda Count as a Tool for Reducing the Influence of the Distance Function on kmeans. HAIS 2020. Gijón (Spain), November 11-13. Oral Presentation
7. Susana Díaz, Irene Díaz, Susana Montes: An Interval-Valued Divergence for Interval-Valued Fuzzy Sets. IPMU (2) 2020. Lisbon (Portugal), 15-19. Oral Presentation
8. Noelia Rico, Raúl Pérez-Fernández, Irene Díaz: Incorporating ranking rules into k nearest neighbours. FUZZ-IEEE 2019. Nueva Orleans (USA), June 23-26. Oral Presentation
9. Ángel Riesgo, Pedro Alonso, Irene Díaz, Vladimír Janis, Vladimír Kobza, Susana Montes: On the Problem of Comparing Ordered Ordinary Fuzzy Multisets. IPMU 2018. Cádiz (Spain), June 11-15. Oral Presentation

10. Luigi Troiano, Irene Díaz, Ciro Gaglione: Matching media contents with user profiles by means of the Dempster-Shafer theory. FUZZ-IEEE 2017. Naples (Italy), July 9-12. Oral Presentation

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. AIDA- Artificial Intelligence & Data Analysis (FC-GRUPIN-IDI/2018/000176). Funded by Government of the Principality of Asturias - Call for grants to public research organizations to support the activities of their research groups in the Principality of Asturias. (01/01/2018 - 31/12/2020). Position: Responsible of tasks. Funding: 180400€
2. Aggregation of information and characterisation of correctors in human assessment processes (TIN2017-87600-P). Funded by Ministry of Economy and Competitiveness - Call for excellence I+D+i projects. (01/01/2018 - 31/12/2021). Position: Main researcher. Funding: 74899€
3. Distributed and Collaborative Sound Signal Processing: Distributed Computing (TEC2012-38142-C04-04). Funded by Ministry of Economy and Competitiveness - Call for I+D+i projects. (01/01/2013 - 31/12/2015). Position: Responsible of tasks. Funding: 82000€
4. Distributed and Collaborative Sound Signal Processing: Distributed Computing (SV-PA-13-ECOEMP-38). Funded by Government of the Principality of Asturias: (01/04/2013 - 31/12/2013). Position: Responsible of tasks. Funding: 18000€
5. Data Mining for Precision Agriculture (UNOV-13-EMERG-GIJON-10). Funded by University of Oviedo - Call for emerging groups (23/06/2013-31/12/2013). Position: Main researcher. Funding: 5000€
6. Feature Reduction and High Performance Computing in High Dimensionality Problems (TIN2010-14971). Funded by Ministry of Education and Science - Call for I+D+i projects. (01/01/2011 - 31/12/2012). Position: Responsible of tasks. Funding: 13200€
7. Analysis and assessment of the actions carried out to improve the mathematical competences of incoming university students (EA2011-0108). Funded by Ministry of Education - Studies and analysis call. (12/12/2011- 31/10/2012). Position: Responsible of tasks. Funding: 24667€
8. Flexible System for Attribute Reduction in High Dimensionality Categorisation Problems (TIN2007-61273). Funded by MICIN - Call for I+D+i projects. (01/2/2007-30/11/2010). Position: Responsible of tasks. Funding: 68970€
9. Parallel and Intelligent Information Organisation and Retrieval (TIN2004-05920). Funded by Ministry of Education and Science - Call for I+D+i projects. (01/12/2004 -30/11/2007). Position: Responsible of tasks. Funding: 43240€

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

Main researcher of the following projects (Article 83 LOU):

1. Optimisation of Machine Learning Algorithms for Automatic Classification of data from bio-medical sensors and images. 24/10/2021-30/06/2022. Amount: 6.500€.
2. Machine Learning for early control of critical process parameters of meat products. 29/09/2020-29/07/2021. Amount: 21.500€.
3. Improvement of Flexibility, Efficiency and Productivity in the cement plant through a new production model Industry 4.0. Funded by: Cementera Tudela-Veguín. Duración: 10/01/2017-30/11/2017. Amount: 30.000€.
4. EOLO-Maximum wind speed. Funded by: TSK. 10/02/2017-09/08/2018. Contract value: 62.650€.
5. Design of an ontology for the development of an intelligent catalogue. Funded by: METALUX. 01/01/2016-01/12/2017. Amount: 67.980€.
6. Algorithms and intelligent techniques for decision-making in precision agriculture. Funded by: SERESCO. 01/07/2014-01/07/2015. Amount: 5.000€.
7. Training action Data analysis for experimentation and improvement in industrial processes. Funded by: Cementera Tudela-Veguín. 01/04/2016-01/05/2016. Amount: 3.000€.