MINISTERIO DE CIENCIA E INNOVACIÓN

CURRICULUM VITAE (maximum 4 pages)

CV date	05/10/2021

Part A. PERSONAL INFORMATION

First and Family name	José C Riquelme Santos		
Social Security, Passport, ID number		Age	
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0002-8243-2186	
	SCOPUS Author ID (*)	57219716128	
	WoS Researcher ID (*)	E-6451-2010	

A.1. Current position

Name of University/Institution	Universidad de Sevilla			
Department	Lenguajes y Sistemas Informáticos			
Address and Country	ETS Ingeniería Informática. Av. Reina Mercedes s/n 41012 Sevilla			
Phone number	954552775	E-mail	riquelme@us.es	
Current position	Full Professor		From	1987
Key words	Data Science			

A.2. Education

PhD, Licensed, Graduate	University	Year
M Sc Mathematics	Universidad de Sevilla	1985
Ph D Computer Science	Universidad de Sevilla	1996

A.3. General indicators of quality of scientific production

Four six-year term (sexenios) of research (last in 2019)
One six-year term of research transfer
Director of four PhD theses from 2010 (twelve in total). Two ongoing theses.
Total papers JCR indexed: **65**. Five last years: 2 (2017), 4 (2018), 7 (2019), 4 (2020), 4 (2021)
Papers in JCR quartiles: **36 Q1**, 15 Q2, 8 Q3, 5 Q4
Papers in Scopus: **167. 18.1%** in top 10% most cited, **28,6%** in top 10% CiteScore
Total Cites Scopus: **2649**. Scopus h-index: 27
Scopus cites five last years: 222 (2017), 276 (2018), 304 (2019), 308 (2020), 264 (2021)

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

I obtained my doctorate in 1996, and I have been IP in a consecutive way of seven projects of the national plan since 2001. I have directed a total of 12 doctoral theses, two of which are already University Professors. I have been co-author of more than 60 articles indexed in JCR journals with more than 75% Q1-Q2. I have been a promoter of Data Science in Spain when in 2002 I established the Spanish Network of Data Mining and Machine Learning, having organized the TAMIDA symposium at both CEDI and CAEPIA since then. The main Spanish groups that began to investigate in what was then called Data Mining were grouped in TAMIDA and since then Data Science is one of the research lines with the greatest projection in Computer Science in Spain. The group formed in the US was divided into 2 and one part constituted the EPS in 2002 at the Pablo de Olavide University in Seville, although we have continued to collaborate in almost all activities as if we were a single group. My research objectives in the medium/long term are focused on the field of smart grids. The power systems sector has all the ideal characteristics for intelligent data analysis. In addition to its importance in topics such as smart cities, new mobility and climate change, the generation of clean electricity needs DS in multiple tasks: generation prediction, prices and demand, predictive and preventive maintenance of facilities such as wind turbines and photovoltaic panels, demand response in generation distributed, etc, all in a field of large volumes of data. Techniques such as deep learning, transfer learning, and image analysis will allow the renewable energy industry to improve its efficiency. I am currently the IP of two autonomous funding projects in this field and we have requested transfer projects at national and regional level on this line of research.

Project management: Principal investigator of six consecutive projects of the National Plan and four of the Andalusian Autonomous Community. Coordinator of four complementary actions of the National Plan. Principal investigator of the TIC-134 group of PAIDI during 10 years.
Transfer Research contracts: Participation in research contracts with companies such as ENDESA, Telefónica, Red Eléctrica de España or EGMASA. FEDER-INTERCONECTA project with INDRA Software Labs. Three Challenges-Collaboration projects. Two contracs with Ayesa AT as IP.
Doctoral Theses: Direction of twelve doctoral theses, of which three have obtained the Extraordinary Doctorate Award from the University of Seville, one the Ibero-American "José Cuena" award and the other "Sevillana Electricity Foundation Award".
Research Evaluator: ANEP Evaluator since 2003. Member of Project Evaluation Commissions of the National Plan in calls for projects, Project Follow-up Days and Ramón y Cajal and Juan de la Cierva scholarships. Autonomous Communities project evaluator. Member of the EQA and SGS expert panel.
Organization of Research Activities: Promoter and coordinator of the Spanish Data Mining Network with more than 40 groups for 10 years, in which I have organized six meetings of the TAMIDA symposium, associated with CEDI or CAEPIA. I have been co-chair of the organizing committee of the IBERAMIA conference. Chairman of the JISBD Program Committee.
Editing Activities: Editor of nine conference proceedings and four special issues of international journals. Editor-in-chief of the Ibero-American Journal of Artificial Intelligence.

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

C.1. Publications (Selected ten from 2016)

[1] Martínez-Ballesteros M, García-Heredia JM, , Nepomuceno IA, Riquelme JC, Machine learning techniques to discover genes with potential prognosis role in Alzheimer's disease using different biological sources, Information Fusion Vol 36, pp 114–129, 2017 IF 6.639 8/132 Art Int Q1

[2] Martín D, M Martínez, D García-Gil, J Alcalá-Fdez, F Herrera, JC Riquelme. MRQAR: a generic MapReduce framework to discover Quantitative Association Rules in Big Data problems. Knowledge-Based Systems, Vol 153, pp. 176-192. 2018. IF (2017) 4.396 14/132 Art Int Q1

[3] Mateos-García, D. J. García-Gutiérrez, JC Riquelme. On the evolutionary weighting of neighbours and features in the k-nearest neighbour rule. Neurocomputing, Vol. 326–327, pp. 54-60. IF (2017) 3.241 27/132 Art Int Q1

[4] Gómez-Losada A, G Asencio–Cortés, F Martínez–Álvarez, JC Riquelme. A Novel Approach to Forecast Urban Surface-Level Ozone Considering Heterogeneous Locations and Limited Information. Environmental Modelling and Software, pp. 52-61, vol 110, 2018. doi.org/10.1016/j.envsoft.2018.08.013. IF (2017) 4.177 9/105 Comp. Sc./Int App Q1

[5] Luna-Romera JM, Martínez-Ballesteros M, García-Gutiérrez J, Riquelme JC. External Clustering Validity Index based on chi-squared statistical test. Information Science. https://doi.org/10.1016/j.ins.2019.02.046 IF (2017) 4.305 12/148 Inf. Sys Q1

[6] Lara-Benítez P, M Carranza-García, J García-Gutiérrez, JC Riquelme. Asynchronous dual-pipeline deep learning framework for online data stream classification. Integrated Computer-Aided Engineering, vol 27 (2), pp. 1-19, 2020, https://doi.org/10.3233/ICA-200617. IF 4.706 25/135 Art Int Q1.

[7] Martínez-Álvarez F, G Asencio-Cortés, J. F. Torres,1 D. Gutiérrez, L. Melgar, R. Pérez-Chacón, C. Rubio, JC Riquelme and A. Troncoso. Coronavirus Optimization Algorithm: A Bioinspired Metaheuristic Based on the COVID-19 Propagation Model. Big Data. 10.1089/big.2020.0051. 2020 IF 3.644 15/108 Th&Meth Q1

[8] Macías-García, L, Martínez-Ballesteros M, Luna-Romera JM, García-Heredia JM, García-Gutiérrez J, Riquelme-Santos JC. Autoencoded DNA methylation data to predict breast cancer recurrence: Machine learning models and gene-weight significance. Artificial Intelligence in Medicine. Vol 110, 101976. 10.1016/j.artmed.2020.101976. 2020. IF 4.383 30/137 Art Int Q1

[9] Lara-Benítez P, M Carranza-García, JC Riquelme. An Experimental Review on Deep Learning Architectures for Time Series Forecasting. International Journal of Neural Systems, vol. 31(3), pp. 1-28, 2021. https://doi.org/10.1142/S0129065721300011. IF (2020) 5.866 28/139 Art Int Q1

[10] Carranza-García M, P Lara-Benítez, J García-Gutiérrez, JC Riquelme. Enhancing Object Detection for Autonomous Driving by Optimizing Anchor Generation and Addressing Class Imbalance. Neurocomputing. Vol 449, pp. 229-244, 2021. 10.1016/j.neucom.2021.04.001 IF (2020) 5.719 30/139 Art Int Q1

C.2. Research projects

From 2001, twenty consecutive years as IP of National Plan Projects:

- Adaptive hybrid models to predict the production of solar and wind renewable energy. P18-RT-2778 PAIDI-Junta de Andalucía. Financing 116,042 euros. Jan 2021-Dec 2023.
- BIDASGRI: Big Data Technologies for Smart Grids. PAIDI- University of Sevilla. Financing 90,000 euros. Jan 2020-Dec 2021.
- Big Data Streaming: Continuous Massive Data Analysis. Descriptive Models. National Plan. TIN2017-88209-C2-2-R. Financing: 116,039 euros. Jan 2018-Dec 2020.
- Big Time-Aware Data: Analysis of Big Data Indexed in Time. Rules and Clustering. National Plan. TIN2014-55894-C2-1-R.. Financing 124,751 euros. Jan 2015-Dec 2017.
- Intelligent Analysis of Biological and Environmental Information. National Plan. TIN2011-28956-C02-02. Financing 47,000 euros. Jan 2012- Dec 2014.
- HERCULES: Scalable Heuristics for the Extraction of Knowledge in Large Volumes of Information. National Plan. TIN2007-68084-C02-02. Financing: 99,200 €. Jan 2008-Dec 2011
- MINERVA: Emerging techniques of data mining for the extraction of knowledge from large volumes of information: application to scientific and industrial data. National Plan.TIN2004-00159. Financing: 82,570 euros. Jan 2005-Dec 2007.

C.3. Contracts, technological or transfer merits

- PISCIS: Paradigms of Innovation, Social and Collaborative applied to Software Engineering Leading company: INDRA software labs. Program: FEDER - INNTERCONECTA - ITC-20131007. Duration: 2014-2015. IP: R. Corchuelo. Total financing: € 1,152,663 US: € 145,236
- Optimization of the conservation of railway infrastructure for urban transport. Program INNTERCONECTA - ITC-20151078. Duration 2015-17. Leading company: Azvi S. A. IP: Francisco Martínez. Total financing: € 1.2M US: € 54,540
- Artificial Intelligence applied to Pest Management, IA2GIP. Program: RTC-2016-5524-2 Challenges-Collaboration. Duration: 2016-18. Leading company: AGC Market View Services. IP: José C. Riquelme. Total financing: € 656,149.34 US: € 38,672.6
- Smart urban water supply and consumption management system (AQUASIG) Program: FEDER-INNTERCONECTA ITC-20161178.Leading company: ISOIN. IP: Francisco Martínez. Total financing: € 797,224.80 US: € 78,166.
- Contract: CECOVEL. Development of a Demand Forecast for Electric Vehicles. Company: Red Eléctrica de España. Duration: 2015-16. IP. Jesús Riquelme. Financing: € 120,000
- Contract: Rayuela Inteligente. Data analysis of the Primary and Secondary Education System. Company: Ayesa AT. Participating entities: U. Pablo de Olavide, U. de Sevilla. IP: José C Riquelme. Duration: 2019-20. Financing: € 201,500

C.4. Patents

- Título: STATService 2.0.
  Inventores (por orden de firma): Riquelme JC, Ruiz A, García J, Segura S, Parejo JA
  Número de solicitud: Nº Reg. 201599901204730
  País de prioridad: España. 2015
  Entidad titular: Universidad de Sevilla
- Título: Roisin: análisis de datos clínicos mediante reglas de asociación
  Inventores (por orden de firma): FM Sanjuán, C Rubio Escudero, B Pontes Balanza, JC Riquelme
  Número de solicitud: Nº Reg. 201799904479009
  País de prioridad: España. 2017
  Entidad titular: Universidad de Sevilla

C.5 Doctoral Theses (from 2010)

- Título: Evolutionary Algorithms to Discover Quantitative Association Rules
  Doctorando: María del Mar Martínez Ballesteros
  Universidad: Universidad de Sevilla. Fecha: Febrero 2012
  Codirector: Dra. Alicia Troncoso (Universidad Pablo de Olavide)
  Tesis con la acreditación de "Doctorado Europeo"
  Premio Extraordinario de Doctorado U. de Sevilla 2013
- Título: Intelligent techniques on Lidar for environmental applications
  Doctorando: Jorge García Gutiérrez
  Universidad: Universidad de Sevilla. Fecha: Junio 2012
  Tesis con la acreditación de "Doctorado Europeo"
- Título: Nuevos modelos de redes neuronales evolutivas para clasificación. Aplicación a unidades producto y unidades sigmoide
  Doctorando: Antonio J. Tallón Ballesteros
  Universidad: Universidad de Sevilla. Fecha: Marzo 2013
  Codirector: Dr. César Hervás (Universidad de Córdoba)
- Título: Ponderación local evolutiva de la regla kNN
  Doctorando: Daniel Mateos García
  Universidad: Universidad de Sevilla. Fecha: Octubre 2013

C.6 Ongoing Doctoral Theses

- Título: Predicción de series temporales con inteligencia artificial en tiempo real
  Doctorando: Pedro Lara Benítez
  Universidad: Universidad de Sevilla. Fecha prevista: finales 2021
- Título: Técnicas de inteligencia artificial para sistemas autónomos de visión y percepción
  Doctorando: Manuel Carranza García
  Universidad: Universidad de Sevilla. Fecha prevista: finales 2022

C.7 Scientific and academic management activities

- Coordinator of Doctoral Consortium of the Spanish Association of Artificial Intelligence (AEPIA). Four editions from 2013 (biannual).
- Coordinator of Doctoral Consortium of Society for Software Engineering and Software Development Technologies (SISTEDES). Five editions from 2015 (annual).
- Special Issues editor and session
  - Knowledge-Based Systems, Vol. 117, 2017
  - Energies. Vol: Energy Time Series Forecasting, 2017
  - Computational Intelligence and Neuroscience. Vol: Applications of Computational Intelligence in Time Series, 2017
  - Energies. Vol: Data science and big data in energy forecasting, 2018.
  - Special Session or Workshops on Conference as SOCO, HAIS, CAEPIA, CEDI, etc.
- Management positions at the University
  Director of department (2000-2009)
  Director of Official Master in Management and Governance TIC (2010-2015)
  Coordinator of Doctorate Program in Computer Science in University of Sevilla from 2018