

**Part A. PERSONAL INFORMATION**

**CV date**

13/01/2022

First and Family name	Alicia Troncoso Lora		
ID number	XXXXXX	Age	XX
Researcher codes	ORCID	0000-0002-9801-7999	
	SCOPUS Author ID (*)	23475711600	
	WoS Researcher ID (*)	L-2648-2016	

**A.1. Current position**

Name of University	Pablo de Olavide University of Seville		
Department	Computer Science		
Address and Country	Ctra. Utrera km. 1, 41013 Sevilla		
Phone number	XXXXXX	E-mail	XXXXXX
Current position	Full Professor	From	2018-09-06
Key words	Data Science, Big Data, Machine Learning		

**A.2. Education**

PhD, Licensed, Graduate	University	Year
PhD Computer Science	University of Seville	2005

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

- **3 research 6-year periods (last one 2019), 1 transfer 6-year period (2015).**
- **Supervision of 6 PhD students (2 extraordinary doctorate awards) and 8 PhD students in progress.**
- **Publications in JCR journals:**
  - ✓ Total number of papers: 65.
  - ✓ Per year: 2 (2002), 1 (2003), 2 (2004), 1 (2005), 1 (2007), 1 (2008), 2 (2010), 4 (2011), 1 (2014), 8 (2015), 4 (2016), 6 (2017), 6 (2018), 6 (2019), 11 (2020), 6 (2021), 3 (2022)
  - ✓ Per quartil: 42 (Q1), 13 (Q2), 8 (Q3), 2 (Q4).
- **Publications in Scopus: 117**
- **Citations in Scopus: 1927. H-index: 25. Average number of citations per year (last 5 years): 266**
- **Citations in Google Scholar: 2960. H-index: 31. Average number of citations per year (last 5 years): 387,2.**

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

**B.1. RESEARCH CONTRIBUTIONS:**

**Research Experience:** All my relevant research career is in the field of data analysis, with a great diversity of tools and algorithms developed in different areas: classification, prediction, regression, etc. and different fields of application: electrical systems, bioinformatics, environment,...

**Research stays:** 3 research stays in USA (1 month and a half in University of Boulder at Colorado, 2 months in Columbia University in New York and 1 month and a half in University of San Diego in California).

**Participation in projects:** Participation in 4 European projects, 8 projects of the National Research Plan and 7 of the Andalusian Research Plan.

**Publications in International Conferences:** Author of 47 papers in international conferences, among others of notable prestige: IDA, DEXA, ICDM, IJCNN, etc.

**Publications in National Conferences:** Author of 23 papers in national conferences, mainly in CEDI and CAEPIA.

**B.2. LEADERSHIP:**

**Chief Investigator in projects and R&D contracts:** Principal investigator of 9 R+D projects: 3 projects of the National Plan, 5 project of the Andalusian Research Plan, 1 project of the Research Plan of the Pablo de Olavide University and 3 R&D contracts (DETEA S. A., ISOTROL S.A. and Centro de Estudios Andaluces).

**Organizer of research activities:** Organization of 11 workshops in ICDM, PAKDD, CEDI, ISDA and CAEPIA, organization of 8 special sessions in ISDA, HIS, SOCO, HAIS, NABIC,



MAEB and ITISE, local Chair of 4 international conferences (HAIS, SOCO, CISIS, ICEUTE), local Chair of EVIA 2016.

### **B.3. SOCIETY CONTRIBUTIONS**

**Participation in R&D contracts:** Participation in 10 research contracts with the companies Red Eléctrica de España, EGMASA, Centro de Estudios Andaluces, EC2CE, Geographica, Lantia, Detea, Soologic and Isotrol.

**Colaboration with entities and social agents:** President of the Spanish Association of Artificial Intelligence from 2021, Member of Andalusian Digital Agency of the regional Government from 2021, Member of the board of directors of the public IT company of the local government from 2015

### **B.4. TRAINING OF YOUNG RESEARCHERS AND RESEARCH EVALUATION**

**PhD Theses Supervision:** Supervision of 6 PhD students, 2 received Extraordinary Doctorate Award. 3 are professors in public universities and 3 work in private companies.

**Edition activities:** Editor of 10 proceedings of conferences, editor of 5 Lecture Notes in Artificial Intelligence, editor of 4 special issues in international JCR journals, editorial board of the Forecasting Journal.

**Reviewer for funding bodies:** ANEP since 2016 (projects TIN, TSI, Ramón y Cajal), National award in computer science (2018, 2020), Becas Leonardo (2019, 2020), Cátedra Santander awards, ESF since 2019, examiner of 18 theses.

**Reviewer for publications:** Member of the Program Committee of leading national conferences such as CEDI, CAEPIA y MAEB. Member of the Program Committee of 25 international conferences. Reviewer in 21 international journals.

**Research Teams:** Responsible Investigator of the TIC254 research group of the Andalusian Research Plan.

### **B.5. OTHER RELEVANT MERITS:**

**Professional Experience:** F. P. I. grant at the University of Seville from 1999 to 2002, Professor at the University of Seville from 2002 to 2005, Professor at the Pablo de Olavide University since 2005, Full Professor in Computer Science at the Pablo de Olavide University since 2018.

**Academic Service:** President of the Spanish Association of Artificial Intelligence from 2021. At the University: Vice-rector for IT from 2009 to 2020, Director of the Master's Degree in Computer Science since 2014 and continues, university faculty member from 2016 to 2019, member of the Doctorate Committee of the Pablo de Olavide University from 2014 to 2018, member of the Academic Committee of Master's Degree in Artificial Intelligence from 2015 to 2020. At the Escuela Politécnica Superior: Academic Coordinator of the Degree in Computer Science from 2012 to 2015, Quality Manager from 2007 to 2009. At the Department: Secretary from 2005 to 2007, Co-Director from 2007 to 2009.

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

#### **C.1. Publications (see instructions)**

- [1] A. M. Fernández, D. Gutiérrez-Avilés, A. Troncoso, F. Martínez-Álvarez. Automated deployment of a Spark cluster with a machine learning algorithm integration. *Big Data Research*, Vol. 19-20, pp. 100135, 2020. doi: doi.org/10.1016/j.bdr.2020.100135 IF: 2.673 27/108 Computer Science, Theory & Methods Q1
- [2] F. Divina, J. F. Torres, M. García-Torres, F. Martínez-Álvarez, A. Troncoso. Hybridizing deep learning and neuroevolution: Application to the Spanish short-term electric energy consumption forecasting. *Applied Sciences*, 10 (16), pp. 5487, 2020. doi.org/10.3390/app10165487 IF: 2.474 32/91 Engineering, multidisciplinary Q2.
- [3] R. Pérez-Chacón, G. Asencio-Cortés, F. Martínez-Álvarez , A. Troncoso. Big data time series forecasting based on pattern sequence similarity and its application to the electricity demand. *Information Sciences*, Vol. 540, pp. 160-174, 2020. doi: doi.org/10.1016/j.ins.2020.06.014 IF: 4.305 12/148 Computer Science, Information Systems Q1.
- [4] Galicia, R. Talavera-Llames, A. Troncoso, I. Koprinska, F. Martínez-Álvarez. Multi-step forecasting for big data time series forecasting based on ensemble learning. *Knowledge-Based Systems*, Vol. 163, pp. 830-841, 2019. doi: doi.org/10.1016/j.knosys.2018.10.009. IF: 4.396 14/132 Computer Science, Artificial Intelligence Q1
- [5] J. F. Torres, A. Galicia, A. Troncoso, F. Martínez-Álvarez. A scalable approach based on deep learning for big data time series forecasting. *Integrated Computer-Aided*

- Engineering, Vol. 25, no. 4, pp. 335-348, 2018. doi:10.3233/ICA-180580. IF: 3.667 17/105 Computer Science, Interdisciplinary Applications Q1
- [6] R. Talavera-Llames, R. Pérez-Chacón, A. Troncoso, F. Martínez-Álvarez. Big data time series forecasting based on nearest neighbors distributed computing with Spark Knowledge-Based Systems, Vol. 161, pp. 12-25, 2018. IF: 4.396 Q1 14/132 Computer Science, Artificial Intelligence Q1
- [7] A. Galicia, J. F. Torres, F. Martínez-Álvarez, A. Troncoso. A novel Spark-based multi-step forecasting algorithm for big data time series. Information Sciences, Vol. 467, pp. 800-818, 2018. doi: doi.org/10.1016/j.ins.2018.06.010. IF: 4.305 12/148 Computer Science, Information Systems Q1.
- [8] G. Asencio-Cortés, F. Martínez-Álvarez, A. Troncoso, A. Morales-Esteban. Medium-Large earthquake magnitude prediction in Tokyo with artificial neural networks. Neural Computing and Applications, Vol. 28, no. 5, pp. 1043-1055, 2017. doi: doi.org/10.1007/s00521-015-2121-7 IF: 4.215 15/132 Computer Science, Artificial Intelligence Q1
- [9] M. Martínez-Ballesteros, J. Bacardit, A. Troncoso, J. C. Riquelme. Mining Enhancing the scalability of a genetic algorithm to discover quantitative association rules in large-scale datasets. Integrated Computer-Aided Engineering, Vol. 22, no. 1, pp. 21-39, 2015. DOI: 10.3233/ICA-140479. IF: 4.981, 5/130 Computer Science, Artificial Intelligence Q1
- [10] J. Gutiérrez, F. Martínez-Álvarez, A. Troncoso, J. Riquelme. A comparison of machine learning regression techniques for LiDAR-derived estimation of forest variables. Neurocomputing, Vol. 167, pp. 24-31, 2015. doi: 10.1016/j.knosys.2016.06.024. IF: 2.392, 31/130 Computer Science, Artificial Intelligence Q1

A complete list can be found at: <https://datalab.upo.es/troncoso/>

## **C.2. Research projects**

### **Chief Investigator:**

- Efficient and explainable deep learning, transfer learning and online learning for health, sustainability and connected mobility (PID2020-117954RB-C21). Funding body: Ministerio de Ciencia e Innovación. 2021-2024. Funding: 160204 €.
- Fusión de deep learning para datos temporales: movilidad y agricultura sostenible (P20\_00870). Funding body: Junta de Andalucía. 2022-2023. Funding: 101200 €.
- Machine Learning para datos temporales de alta frecuencia: algoritmos y aplicaciones (UPO-1380516). Funding body: Junta de Andalucía. 2022-2023. Funding: 26086 €.
- Big Data Streaming: Análisis de datos masivos continuos (TIN2017-88209-C2-1-R). Funding body: Ministerio de Economía y Competitividad. 2018-2020. Funding: 117.249,00€.
- Big Time-Aware Data: Análisis de datos masivos indexados en el tiempo (TIN2014-55894-C2-2-R). Funding body: Ministerio de Economía y Competitividad. 2015-2017. Financiación: 111.078,00 €.
- Grants to PAIDI-TIC254 research group. Funding body: Junta de Andalucía. 2019-2020. Funding: 24.000 €.
- Técnicas Avanzadas para el Análisis de Datos Temporales: Aplicación a Terremotos y Contaminación ambiental (P12-TIC-1728). Funding body: Junta de Andalucía. 2015-2017. Funding: 35.850 €.
- Servicio web para el acceso a la información en portales open data (PRY153/14). Funding body: Junta de Andalucía. 2015-2016. Funding: 36.300 €.
- Modelos predictivos para la gestión colaborativa de estimaciones en procesos de relación con el cliente. Funding body: Corporación Tecnológica de Andalucía. 2018-2019. Funding: 48.848,91 €.

### **Investigator:**

- Earthquake resilient schools in the region of Algarve and Huelva (POCTEP-0313\_PERSISTAH\_5\_P). European Union. PI: João M. C. Estêvão (Partner Pablo de Olavide University: Francisco Martínez Álvarez). 600.000 €. 2016-2019.
- IA2GIP: Inteligencia Artificial aplicada a la Gestión de Plagas (RTC-2016-5524-2). Ministerio de Economía y Competitividad, PI: Francisco Martínez-Álvarez. 88.000 €. 2015-2018.
- E-RESPLAN: Innovative Educational Tools for Energy Planning (KA2-HE-17/15). European Union. PI: Pilar Paneque Salgado. 228.825 €. 2015-2017.

- ENEPLAN: Developing skills in the field of integrated energy planning in Med Landscapes (561877-EPP-1-2015-1-ITEPPKA2-CBHE-JP). European Union. PI: Pilar Paneque Salgado. 959.822 €. 2015-2017
- REGIONS4Food: REGIONAl Strategies 4 FOOD 4.0 Revolution. European Union. PI: Consejería de Agricultura, Pesca y Desarrollo Rural (Partner Pablo de Olavide University: Gualberto Asencio Cortés). 1.502.890,00 €. 2018-2023.

### **C.3. Contracts, technological or transfer merits**

- Plataforma digital de Servicios de Logística Portuaria DIGITAL PORT (ITC-20181064). Company: EASYTOSEE AGTECH S.L. PI: Gualberto Asencio Cortés. 54.540 €. 2019-2020.
- Análisis de datos asociados a la predicción en los mercados eléctricos. Company: Isotrol. PI: Alicia Troncoso Lora. 36.691,95 €. 2017-2019.
- NetLantia IoT: Diseño e implementación de red y plataforma Smart Lantia IoT. Company: Lantia IOT S.L. PI: Francisco Martínez Álvarez. 344.526 €. 2018-2019.
- AQUASIG: Sistema inteligente de gestión del abastecimiento y consumo urbano de agua (ITC-20161178). Company: Geographica. PI: Francisco Martínez Álvarez. 65340 €. 2016-2018.
- Nuevos protocolos de comunicación para la creación de smart cities. Company: Lantia IOT S.L. PI: Francisco Martínez Álvarez. 98.000 €. 2017-2018.
- Optimización de la conservación de infraestructura ferroviaria para transporte urbano (ITC-20151078). Company: Azvi S. A. PI: Francisco Martínez Álvarez. 54.540 €. 2015-2017.
- CECOVEL. Desarrollo de un Previsor de Demanda para Vehículo Eléctrico. Company: Red Eléctrica de España. PI: Antonio Gómez Expósito (U. de Sevilla). 120.000,00 €. 2015-2017
- Servicio web para el acceso a la información en portales open data. Company: Centro de Estudios Andaluces. PI: Alicia Troncoso Lora. 36.300 €. 2014-2016.

### **C.4 Research Awards**

- Research Award “Fundación Sevillana de Electricidad”. Funding body: Junta de Andalucía. Amount: 3000 euros

### **C.5. Research evaluation**

- Reviewer of ANEP since 2016.
- Member of the Program Committee of the leading national conferences: MAEB, CAEPIA y CEDI.
- Member of the Program Committee of 25 international conferences.
- Reviewer of 21 international journals.
- Examiner of 18 PhD theses.

### **C.6. Research management**

- Management of 5 projects as chief investigator.
- Organiser of 20 workshops/special sessions in national and international conferences.
- Member of the Scientific Committee of CEDI in 2016
- Local Chair of 4 international conferences (HAIS16, SOCO19, CISIS19, ICEUTE19).
- Local Chair of Jornadas Gobierno Abierto y Open Data Sevilla in 2012.

### **C.7. Patents**

- RCDWed - Remote Cluster deployer. Authors: F. Martínez-Álvarez, J. F. Torres, A. Troncoso. Priority country: Spain. Protection: National. Number: 04/2018/3731. Date: 05/06/2018. Owner entity: Pablo de Olavide University.
- iPresCons - Gestión inteligente de proyectos de construcción de bienes inmuebles. Authors: A. Troncoso, G. Asencio-Cortés, S. Conesa, F. Martínez-Álvarez, J. F. Torres. Priority country: Spain. Protection: National. Number: 04/2020/2659. Date: 26/02/2020. Owner entity: Pablo de Olavide University. In operation by the company DETEA.
- PredictorRT – Modelo predictivo para el mercado de energía eléctrica de regulación terciaria. Authors: A. Troncoso, J. F. Torres, G. Asencio-Cortés, F. Martínez-Álvarez, A. Galicia, F. Priority country: Spain. Protection: National. Number: SE-00465-21. Date: 13/07/2021. Owner entity: Pablo de Olavide University