PERSONAL INFO

Name: **Alberto Nogales Moyano** Phone Number: + 34 626922900
E-mail: alberto.nogales.moyano@gmail.com Birth: Málaga (Spain) 25/08/1981
Address: Del Castillo 19 2f (28010) Madrid (Spain) ID: 44590222F

ACADEMICAL INFO

PhD in **Computer Science** at the **University of Alcalá** (Spain) - July 2018. "A structural and quantitative analysis of the Web of Linked Data and its components to perform data retrieval". **Suma Cum Laude.**

Master's in computer vision at the **TECH Universidad Tecnológica** (Spain) Online.

Master's in software engineering and **artificial intelligence** at the **University of Málaga** (Spain).

Technical engineering in **Computer Science specializing** in **Management** at **ICAI-Pontifical University of Comillas** (Spain).

LECTURER

Degree courses at **Universidad Francisco de Vitoria** (Spain):

- **From September 2025**: Artificial Intelligence, Introduction to Programming, Software Engineering, Final Degree Projects.
- **From January 2018** to **June 2025**: Artificial Intelligence II, Data Mining, Final Degree Projects.
- **Course 2017/2018**: Algorithms, Development and Integration of Software and Artificial Intelligence II.

Seminars:

- The Web of Linked Data and its information (**April 2017**) at the **Technical University of Tallinn** (Estonia) and **Tallinn University** (Estonia).
- Information retrieval in Linked Data sources (**December 2014**) at the **University of Alcalá** (Spain).
- Data science (**November 2014**) at **AgriHackIture Datathon**.

Master course: Web Infrastructure (**1st Semester 2016**) at the **University of Alcalá** (Spain).

Course: iPython (**December 2014**) at Hackgriculture, a hackathon organized by the **University of Alcalá** (Spain).

Training school: iPython for data analysis (**December 2014**) at the **University of Alcalá** (Spain).

MOOC:

- Data science en agricultura (**November 2014 – 3 months**) at **Canvas Network**.
- Metadatos para la descripción de recursos educativos (**December 2015 – 3 months**) at **Canvas Network**.

RESEARCHER EXPERIENCE

Since May 2025: **Researcher** at **IRYCIS-Hospital Ramón y Cajal** and **Associate Professor** at **Universidad de Alcalá** (Spain).

November 2017 – April 2025: **Researcher** at **CEIEC Institute and Associate Professor** at **Universidad Francisco de Vitoria** (Spain).
Projects:

- **MamoEcoTermo**. Cost-effective **breast cancer screening** using mammography, ultrasound, and thermography with **artificial intelligence** techniques.
- **ARCHER**. **Virtual reconstruction** of architectural **cultural heritage** through **Artificial Intelligence and Language Processing**.
- **ADAMO Robot**. **Artificial Intelligence models** for treatment proposal and comparative follow-up of the injury in patients with **musculoskeletal pathology**.
- **ARQGAN**. Application of **GAN** (Generative Adversary Networks) models to obtain the **virtual reconstruction** of historic **building remains** from virtual images.
- **Melanoma**. **Deep Learning** for improved **diagnosis** and anticipation of immunotherapy in **melanoma**.
- **BRAINN**. **Detection** of small **brain tumours** in magnetic resonances using U-Net models.
- **CLINiC**. **Evaluation** of **Medical Records** in the academic setting using **Large Language Models**.
- **EVALAMED. LLM-Assisted ECOE Evaluation** for Medical Students.

May 2023 – September 2023: **Visiting Researcher** at the **University of Tokyo** (Japan).
Project:

- **Gaze prediction** in **infants** using **deep learning** models in **egocentric videos.**

April 2017 – June 2017: **Visiting Researcher** and **Lecturer** at the **Technical University of Tallinn** (Estonia). Granted with funding of **DORA** scholarships.
Project:

- **AutonoMAS buses**. Development of a Multiagent System based on ontologies, able to understand the Traffic Act of Estonia.

May 2013 – July 2018: **Ph.D. Candidate, Researcher,** and **Lecturer** at **Alcalá University** (Spain). My responsibilities consist of developing tools, writing technical documentation, reviewing, and writing papers, organizing meetings, lecturer at MOOCs and seminars, and helping interns.
Projects:

- **agINFRA** (283770). The aim of the Networking Activities from the agINFRA project is to foster a culture of cooperation between the agricultural scientific communities benefiting from research infrastructures and help develop a more efficient and attractive European Research Area.
- **SemaGrow** (318497). SemaGrow envisages developing the scalable, efficient, and robust data services needed to take full advantage of the data-intensive and inter-disciplinary Science of 2020 and to reshape the way that data analysis techniques are applied to the heterogeneous data cloud.
- **CVN2Cerif**. a conversion tool from the Spanish CVN (Curriculum Vitae Normalizado) format to EuroCRIS' CERIF standard and vice versa.

- **Cerif2VIVO**: a conversion tool from EuroCRIS' CERIF standard format to VIVO.
- **Mailtrack**: optimization of mail deliveries applying machine-learning techniques.

October 2012 – April 2013: **Researcher** at **Málaga University** (Spain).
Project:

- **Atenea** (HAR2009-07068): Thesauri for Art History

January 2012 – September 2012: **Researcher** at **Málaga University** (Spain).
Project:

- **BIOLEDGE** (8.06.UE/47.7030): Data mining techniques for protein production

July 2011 – December 2011: **Researcher** at **Technische Universität Wien** (Austria).

- **Master Thesis**: "Solving **Multi-objective problems** with **Semantic Web** metaheuristics"

EXPERIENCE AT COMPANIES

November 2006 – September 2010:

Java Jr Developer at different consultancy companies: **e-gim, Mr. Houston, ICNET Consulting.**

Internship at **IBM. Database analyst** and **Java developer.**

LANGUAGES

English: Spoken and written high-level

December 2011: C1 certificate from Malaga University

September 1996 and 1997: Exchange at St Gerard (Bray CO. Dublin)

1988 - 1998: Sheila Language School in Málaga

German: January 2017: A2 certificate by Goethe Institut

JOURNAL PUBLICATIONS (JCR INDEX)

1. **Nogales, A**., Maitín, A.M., & García-Tejedor, Á. (2025). Best Practices to Train Accurate Deep Learning Models: A General Methodology. ***International Journal of Advanced Computer Science and Applications.*** **Impact Factor (2025): 0.2 (Q3 in 'Computer Science, Theory & Methods')**
2. Montas-Laracuente, N., Delgado Martos, E., Pesqueira-Calvo, C., Intra Sidola, G., Maitín, A., García-Tejedor, Á. J. & **Nogales, A.,** (2025). A Systematic Review of Artificial Intelligence for Capturing Real-World Structures into Building Information Modelling. ***Journal of Building Engineering*****. Impact Factor (2024): 7.4 (Q1 in 'Construction & Building Technology')**
3. **Nogales, A**., Garrido, M.C., Guitian, A., Rodriguez-Peralto, J.L., Prados-Villanueva, C., Díaz-Prieto, D., & García-Tejedor, Á. (2025). A Hybrid Artificial Intelligence Framework for Melanoma Diagnosis Using Histopathological Images.

Technologies. **Impact Factor (2024): 3.6 (Q1 in 'Engineering, Multidisciplinary')**

4. Montas-Laracuente, N., Delgado Martos, E., Pesqueira-Calvo, C., Intra Sidola, G., Maitín, A., **Nogales, A.,** & García-Tejedor, Á. J. (2025). Automatic 3D Reconstruction: Mesh Extraction Based on Gaussian Splatting from Romanesque–Mudéjar Churches. ***Applied Sciences*****. Impact Factor (2024): 2.5 (Q2 in 'Engineering, Multidisciplinary')**
5. **Nogales, A**., Guadalupe, D., & García-Tejedor, Á. (2025). Self-organizing maps to evaluate optimal strategies for balancing binary class distributions. ***Journal of Big Data.*** **Impact Factor (2024): 6.4 (Q1 in 'Computer Science, Theory & Methods')**
6. Piglowski, M., **Nogales, A**., & Śmiechowska, M. (2025). Hazards in products from the northern Mediterranean countries reported in the Rapid Alert System for Food and Feed (RASFF) in 1997-2021 in the context of sustainability. ***Sustainability.*** **Impact Factor (2024): 3.3 (Q2 in 'Environmental Science')**
7. Maitín, A.M., **Nogales, A**., Sergio Fernández-Rincón, S., Aranguren, E., Cervera-Barba, E., Denizon-Arranz, S., Mateos-Rodríguez, A. & García-Tejedor, Á. (2024). Application of Large Language Models in clinical record correction: A comprehensive study on various retraining methods. ***Journal of American medical informatics association.*** **Impact Factor (2025): 4.7 (Q1 in 'Computer Science, Information Systems')**
8. Maitín, A.M., **Nogales, A**., Delgado-Martos, E., Intra Sidola, G., Pesqueira Calvo, C., Furnieles, G. & García-Tejedor, Á. (2024). Evaluating activation functions in GAN models for virtual inpainting: A path to architectural heritage restoration. ***Applied Sciences.*** **Impact Factor (2024): 2.5 (Q1 in 'Engineering, Multidisciplinary')**
9. Carrilero-Mardones, M., Parras-Jurado, M., **Nogales, A.,** Pérez-Martín, J & Díez, FJ. Deep Learning for Describing Breast Ultrasound Images with BI-RADS Terms. ***Journal of Imaging Informatics in Medicine (former Journal of Digital Imaging)*****. 4.4 (Q1 in 'Radiology, Nuclear Medicine & Medical Imaging')**
10. **Nogales, A.,** García-Tejedor, A.J., Serrano Vara, J. & Ugalde-Canitrot, A. eDeeplepsy: an artificial neural framework to reveal different brain states in children with epileptic spasms. ***Epilepsy & Behavior*****. Impact Factor (2024): 2.6 (Q2 in 'Behavioral Sciences')**
11. **Nogales, A.,** Rodríguez-Aragón M. & García-Tejedor, A.J. **(2024).** A systematic review of the application of deep learning techniques in the physiotherapeutic therapy of musculoskeletal pathologies. ***Computers in Biology and Medicine*****. Impact Factor (2024): 7.7 (Q1 in 'Computer Science, Artificial Intelligence')**
12. **Nogales, A.,** Caracuel J. & García-Tejedor, Á.J. **(2024).** Analyzing the influence of diverse background noises on voice transmission: A deep learning approach to noise suppression. ***Applied Sciences*****. Journal indexed in 'Journal Citation Reports' (Thomson Reuters), Impact Factor (2024): 2.7 (Q2 in 'Engineering, Multidisciplinary')**
13. **Nogales, A.,** Pérez-Lara F. & García-Tejedor, Á.J. **(2023).** Enhancing breast cancer diagnosis with deep learning and evolutionary algorithms: A comparison of approaches using different thermographic imaging treatments. ***Multimedia Tools and Applications*****. Journal indexed in 'Journal Citation Reports' (Thomson Reuters), Impact Factor (2023): 3 (Q2 in 'Computer Science, Information Systems')**
14. **Nogales, A.,** & García-Tejedor, Á.J. **(2023).** A systematic review of electroencephalography open datasets and their usage with deep learning models.

IEEE Access. **Impact Factor (2023): 3.4 (Q2 in 'Computer Science, Information Systems')**

15. **Nogales, A.,** Donaher, S. & García-Tejedor, A.J. A deep learning framework for audio restoration using Convolutional/Deconvolutional Deep Autoencoders. ***Expert systems with applications*. Impact Factor (2023): 7.5 (Q1 in 'Computer Science, Artificial Intelligence')**
16. **Nogales, A.,** García-Tejedor, A.J., Chazarra, P. & Ugalde-Canitrot, A. Discriminating and understanding brain states in children with epileptic spasms using deep learning and graph metrics analysis of brain connectivity. ***Journal of Computer Methods and Programs in Biomedicine*. Impact Factor (2023): 4.9 (Q1 in 'Computer Science, Interdisciplinary Applications')**
17. **Nogales, A.,** Gallardo, F., Pajares, M., Martinez-Gamez, J., Moreno, J. & García-Tejedor, A.J. A semiautomatic method for obtaining a predictive deep learning model and a rule-based system for abdominal aortic aneurysms. ***Journal of Intelligent Information Systems*. Impact Factor (2023): 2.3 (Q3 in 'Computer Science, Artificial Intelligence')**
18. Maitín, A., **Nogales, A.**, Chazarra, P. & García-Tejedor, Á.J. EEGraph: An open-source Python library for modeling electroencephalograms using graphs. ***Neurocomputing*. Impact Factor (2023): 5.5 (Q1 in 'Computer Science, Artificial Intelligence')**
19. **Nogales, A.,** Mora-Cantallops, M., Díaz-Morón, R. & García-Tejedor, A.J. **(2023)**. Network Analysis for Food Safety: Quantitative and Structural Study of Data Gathered through the RASFF System in the European Union. ***Food Control*. Impact Factor (2023): 5.6 (Q1 in 'Biotechnology')**
20. **Nogales, A.**, García-Tejedor, Á.J., Maitín, A. M., Pérez-Morales, A., Del Castillo, M.D. and Romero, J.P. **(2022).** BERT learns from electroencephalograms about Parkinson´s Disease: Transformer-based models for aid diagnosis. ***IEEE Access*. Impact Factor (2022): 2.5 (Q2 in 'Computer Science, Information Systems')**
21. **Nogales, A.,** Morón, R. D., & García-Tejedor, Á. J. **(2022**). A comparison of neural and non-neural machine learning models for food safety risk prediction with European Union RASFF data. ***Food Control***. **Impact Factor (2022): 6.0 (Q1 in 'Biotechnology')**
22. **Nogales, A.,** Sicilia, M. A., & García-Tejedor, Á. J. **(2022)**. A domain categorisation of vocabularies based on a deep learning classifier. ***Journal of Information Science***. **Impact Factor (2020): 1.8 (Q3 in 'Computer Science, Information Systems')**
23. **Nogales, A.,** Delgado, E., Melchor, Á., & García-Tejedor, Á. (2021). ARQGAN: an evaluation of generative adversarial network approaches for automatic virtual inpainting restoration of Greek temples. ***Expert Systems with Applications Journal***. **Impact Factor (2020): 5.44 (Q1 in 'Computer Science, Artificial Intelligence')**
24. **Nogales, A.,** García-Tejedor, Á., Monge, D., Serrano Vara, J. & Antón, C. (2020). A survey of deep learning models in medical therapeutic areas. ***Artificial Intelligence in Medicine***. **Impact Factor (2020): 4.38 (Q1 in 'Computer Science, Artificial Intelligence')**
25. **Nogales, A.,** Sicilia, M.A., & García-Barriocanal, E. (2018). On the Graph Structure of the Web of Data. International ***Journal on Semantic Web and Information Systems***. **Impact Factor (2018): 0.79 (Q2 in 'Information Systems')**
26. **Nogales, A.,** Sicilia-Urban, M.A., & García-Barriocanal, E. Measuring vocabulary use in the Linked Data Cloud. ***Online Information Review***. **Impact Factor (2017): 1.53 (Q2 in 'Computer Science Applications')**

27. **Nogales, A.,** Sicilia, M.A., Sánchez-Alonso, S. & Garcia-Barriocanal, E. Linking from Schema.org microdata to the Web of Linked Data: An empirical assessment. ***Computer Standards & Interfaces***. **Impact Factor (2016): 1.63 (Q2 in 'Software')**

JOURNAL PUBLICATIONS (NON-JCR INDEX)

1. García-Tejedor, Á. J. & **Nogales, A. (2022**). An open-source Python library for self-organizing maps. ***Software Impacts***. **Journal indexed in 'Scopus'.**
2. García, E.M., **Nogales, A.,** Morales, J., & García-Tejedor, Á. (2020). A light method for data generation: a combination of Markov Chains and Word Embeddings. ***Proces. del Leng. Natural.*** **Journal indexed in 'Journal Citation Indicator'.**

CONFERENCES

1. Delgado-Martos, E., Intra Sidola, G., Pesqueira Calvo, C., Carlevaris, L., Maitín, A.M., **Nogales, A.**, Ramírez, G. and García-Tejedor, A.J. (2024, October). Unveiling hidden patterns: Clustering Mudejar church floor plans using Self-Organizing Maps for architectural analysis. In ***REpresentation Advances And CHallenges (REAACH), 2024.***
2. Carlevaris, L., Delgado-Martos, E., Intra Sidola, G., Maitín, A.M., **Nogales, A.,** Pesqueira-Calvo, C., Bravo Peña, M., García-Tejedor. Á. J. (2023, October). Architectural recognition through artificial intelligence. A process between the equivocal and the probable. In ***REpresentation Advances And CHallenges (REAACH), 2023.***
3. Carrilero-Mardones, M., Parras-Jurado, M., **Nogales, A.,** Pérez-Martín, J & Díez, FJ. Automatic breast ultrasound bi-rads description model. Poster in ***IEEE International Symposium on Biomedical Imaging (ISBI) 2023.***
4. Carrilero-Mardones, M., Parras-Jurado, M., **Nogales, A.,** Pérez-Martín, J & Díez, FJ. A deep neural network for describing breast ultrasound images in natural language. Poster in ***European Society of Breast Imaging (EUSOBI) 2022.***
5. **Nogales, A.,** Pérez-Lara, F., Morales, J., & García-Tejedor, Á. J. (2022). How do thermography colors influence breast cancer diagnosis? A hybrid model of convolutional networks with a weighted average algorithm. In ***Intelligent Systems Conference 2022***.
6. **Nogales, A.,** García-Tejedor, Á. J., Sanz, N. M., & de Dios Alija, T. (2019, June). Competencies in Higher Education: A Feature Analysis with Self-Organizing Maps. In ***International Workshop on Self-Organizing Maps*** (pp. 80-89). Springer, Cham.
7. **Nogales, A.,** Täks, E., & Taveter, K. (2018, September). Ontology Modeling of the Estonian Traffic Act for Self-driving Buses. In ***Annual International Symposium on Information Management and Big Data*** (pp. 249-256). Springer, Cham.
8. **Nogales, A.,** Sicilia, MA. & Jörg, B. (2014). Combining VIVO and Google Scholar data as sources for CERIF Linked Data: a case in the agricultural domain. **Procedia Computer Science 33**, 266-271.
9. Ruiz, J., Sicilia, MA & **Nogales, A.** Uso de temperaturas históricas para predecir posibles incidencias de plagas en una localización. **XI Congreso SEAE**. (2014)
10. **Nogales, A.,** Sicilia, MA., García-Barriocanal, E. & Sánchez-Alonso, S. Exploring the potential for mapping Schema. org microdata and the Web of Linked Data. ***Research Conference on Metadata and Semantic Research***, 266-276. (2013/11/19)

CHAPTERS

1. Delgado-Martos, E., Carlevaris, L., Sidola, G. I., Pesqueira-Calvo, C., **Nogales, A.**, Maitín, A. M., & García-Tejedor, Á. J. (2024). Between impossible and probable.

Architectural recognition through qualitative evaluation of artificial intelligence response In: Giordano, A., Russo, M., Spallone, R. (eds) ***Beyond Digital Representation. Digital Innovations in Architecture, Engineering and Construction***. Springer, Cham. **ICEE index (International): 497**

2. de Dios Alija, T., **Nogales, A.,** García-Tejedor, Á. J. & Sanz, N. M. (2023, June). The influence of Experience, Education, and Preferences in the acquisition of transversal competencies in Psychology. ***Innovación sin fronteras: una mirada transversal a la educación y la investigación***. Dykinson SL. **ICEE index (Spain): 758**
3. Delgado-Martos, E., Carlevaris, L., Sidola, G. I., Pesqueira-Calvo, C., **Nogales, A.**, Maitín, A. M., & García-Tejedor, Á. J. (2023). Automatic Virtual Reconstruction of Historic Buildings Through Deep Learning. A Critical Analysis of a Paradigm Shift. In: Giordano, A., Russo, M., Spallone, R. (eds) ***Beyond Digital Representation. Digital Innovations in Architecture, Engineering and Construction***. Springer, Cham. **ICEE index (International): 497**

PATENTS

1. García-Tejedor, Á. J., **Nogales, A.**, & Delgado-Martos, E. (2024). Title: Method for obtaining an image with a restored object.
   European patent number: EP21382311.5
2. García-Tejedor, Á. J., **Nogales, A.**, & Donaher, S. (2024). Title: Wavenet: Method for processing sound data.
   Spanish patent number: ES2906257B2

AWARDS AND RECOGNITIONS

- **H-index = 11**
- **Patent application award** by Universidad Francisco de Vitoria: ARQGAN project, April 2022.
- **Patent application award** by Universidad Francisco de Vitoria: AI background suppression model, April 2023.
- **Artificial Intelligence Summit award** by AMETIC: ARQGAN project, April 2022.
- **Two DOCENTIA** (quality of the teaching activity) positive evaluations by ANECA (authorized agency of the Spanish government), 2021 and 2024.
- **Associate Professor** positive evaluation by ANECA (authorized agency of the Spanish government), 2023.
- **One six-year research term** granted by ANECA (authorized agency of the Spanish government), 2023.