

CV Date	09/01/2025
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Part A. PERSONAL INFORMATION

First Name	Juan		
Family Name	Gómez Romero		
Sex	Male	Date of Birth	
ID number Social Security, Passport			
URL Web	http://decsai.ugr.es/~jgomez/		
Email Address	jgomez@decsai.ugr.es		
Open Researcher and Contributor ID (ORCID)	0000-0003-0439-3692		

A.1. Current position

Job Title	Catedrático de Universidad		
Starting date	2023		
Institution	Universidad de Granada		
Department / Centre	Computer Science and Artificial Intelligence / Escuela Técnica Superior de Ingeniería Informática		
Country	Spain	Phone Number	
Keywords	Artificial intelligence		

Part B. CV SUMMARY

Bio: I am a Professor (Catedrático de Universidad) at the Computer Science department of Universidad de Granada (DECSAI-UGR) since 2023, where I lead the Sustainable Artificial Intelligence Laboratory. Previously, I was an Associate Professor (Profesor Titular) at DECSAI-UGR (2019-2023), a Research Fellow at DECSAI-UGR (2013-2019) and a Lecturer at the Computer Science department of Universidad Carlos III de Madrid (2009-2013). I received my BSc in Computer Science (2004), MSc (2006) and PhD (2008, Cum Laude and European Doctorate mentions) degrees from UGR. In 2016-2017, I was a Visiting Researcher at the Data Science Institute of Imperial College London.

Projects: In the last 10 years, I have been the principal investigator of several regional, national and international projects on simulation and optimization of cyberphysical energy systems (e.g., IA4TES, DEEPSIM, PROFICIENT) and on fighting disinformation with AI-supported fact checking (e.g., IBERIFIER Plus, UDDOT, U-MIND). Previously, I was a participant in more than 20 research and technology transfer projects.

Publications: Derived from my work, I have published > 40 papers in JCR journals and >40 conference contributions (including SCIE >=A-rated). Some of these publications are co-authored with researchers of highly relevant international institutions, e.g., ISTI-CNR (Italy), Imperial College London (UK) and University at Buffalo (USA). I have received more than 2,000 citations and have an h-index >= 25 (Google Scholar).

Seminars, talks & reviews: I have given several invited talks and courses in renowned venues: University of Oxford, Telecom Paristech, Universidad de Buenos Aires, Interpol General Secretariat, UN Office on Drugs and Crime, etc. I serve regularly as a reviewer for several JCR journals and as an appointed expert for quality and certification assessment of R+D+I activities for the companies DNV and ACERTA.

Research periods & accreditations: I have recognized 3 periods of research activity [sexenios] (maximum number).

Teaching periods & student supervision: I have recognized 3 periods of research activity [quinquenios] (maximum number). I have completed more than 1600 teaching hours in English and Spanish (grad and postgrad levels). I have been the supervisor of 2 PhD thesis and >25 MSc projects in the last 5 years.

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences

- 1 Campoy, A., Manjavacas, A., Jiménez-Raboso, J., Molina-Solana, M., Gómez-Romero, J. (2025). *Sinergym — A Virtual Testbed for Building Energy Optimization with Reinforcement Learning*. *Energy and Buildings*, 327, 115075. <https://doi.org/10.1016/j.enbuild.2024.115075>.
- 2 Huitzil, I., Molina-Solana, M., Gómez-Romero, J., Schorlemmer, M., García-Calvés, P., Osman, N., Coll, J., Bobillo, F. (2024). *Semantic Building Information Modeling: An Empirical Evaluation of Existing Tools*. *Journal of Industrial Information Integration*, 42, 100731. <https://doi.org/10.1016/j.jii.2024.100731>.
- 3 García Uceda, R., Gijón, A., Miguez-Lago, S., Cruz, C.M., Blanco, V., Fernandez-Alvarez, Fatima, Alvarez de Cienfuegos, L., Molina-Solana, M., Gómez-Romero, J., Miguel, D., Mota, A., Cuerva, J.M. (2024). *Can Deep Learning Search for Exceptional Chiroptical Properties? The Halogenated [6]Helicene Case*. *Angewandte Chemie*, e202409998. <https://doi.org/10.1002/ange.202409998>.
- 4 Manjavacas, A., Campoy, A., Jiménez-Raboso, J., Molina-Solana, M., Gómez-Romero, J. (2024). *An Experimental Evaluation of Deep Reinforcement Learning Algorithms for HVAC Control*. *Artificial Intelligence Review*, 57, 173. <https://doi.org/10.1007/s10462-024-10819-x>.
- 5 Bülte, C., Kleinebrahm, M., Yilmaz, H.Ü., Gómez-Romero, J. (2023). *Multivariate Time Series Imputation for Energy Data using Attention Modeling*. *Energy and AI*, 100239. <https://doi.org/10.1016/j.egyai.2023.100239>.
- 6 Fernández de la Mata, F., Gijón, A., Molina-Solana, M., Gómez-Romero, J. (2023). Physics-informed Neural Networks for Data-driven Simulation: Advantages, Limitations, and Opportunities. *Physica A: Statistical Mechanics and its Applications*, 610, 128415. <https://doi.org/10.1016/j.physa.2022.128415>.
- 7 Ruiz, M. D., Fernandez-Basso, C. J., Gómez-Romero, J., Martin-Bautista, M. J. (2022). Big Data Architecture for Building Energy Management Systems. *IEEE Transactions on Industrial Informatics*, 18(9), 5738-5746. <https://doi.org/10.1109/TII.2021.3130052>.
- 8 Barzola-Monteses, J., Gómez-Romero, J., Espinoza-Andaluz, M., Fajardo, W. (2022). Hydropower Production Prediction using Artificial Neural Networks: an Ecuadorian Application Case. *Neural Computing and Applications*. <https://doi.org/10.1007/s00521-021-06746-5>.
- 9 Huitzil, I., Molina-Solana, M., Gómez-Romero, J., Bobillo, F. (2021). Minimalistic Fuzzy Ontology Reasoning: An application to Building Information Modeling. *Applied Soft Computing*, 103, 107158. <https://doi.org/10.1016/j.asoc.2021.107158>.
- 10 Molina-Solana, M., Senaka, F., Amador, J., Serban, O., Gómez-Romero, J., Guo, Y. (2020). Towards a Large-scale Twitter Observatory for Political Events. *Future Generation Computer Systems*, 110, 976-983. <https://doi.org/10.1016/j.future.2019.10.013>.

C.2. Conferences and meetings

- 1 J. Jiménez-Raboso; A. Campoy; A. Manjavacas; M. Molina-Solana; J. Gomez-Romero. Sinergym: A building simulation and control framework for training reinforcement learning agents. 8th ACM Internacional Conference on Systems for Energy-Efficient Buildings, Cities and Transportation (BUILDSYS21), 2nd SIGEnergy Workshop on Reinforcement Learning for Energy Management in Buildings & Cities. BuildSys Organizing Committee. 2021. Portugal. Participatory - oral communication. Conference.
- 2 H.U. Yilmaz; M. Kleinebrahm; C. Bülte; J. Gomez-Romero. Applying transformer to imputation of multivariate energy time series data. Thirty-eighth International Conference on Machine Learning (ICML 2021), Workshop Tackling Climate Change with Machine Learning. ICML Organizing Committee. 2021. Participatory - oral communication. Conference.
- 3 M. Molina-Solana; J. Gomez-Romero. Towards data-driven simulation models for building energy management. International Conference on Computational Science. AGH University of Science and Technology. 2021. Poland. Participatory - oral communication. Conference.
- 4 J. Gomez-Romero; M. Molina-Solana. Towards self-adaptive building energy control in smart grids. Thirty-third Conference on Neural Information Processing Systems (NeurIPS 2019), Workshop Tackling Climate Change with Machine Learning. NeurIPS Organizing Committee. 2019. Canada. Participatory - poster. Conference.

C.3. Research projects and contracts

- 1 Project. PID2021-125537NA-I00, SINERGY: Deep learning for building simulation models to improve energy efficiency. Ministerio de Ciencia e Innovación. (Universidad de Granada). 01/09/2022-31/08/2025. 80.223 €. Team member.
- 2 Project. MIA-2021-M04-0008, IA4TES: Tecnologías inteligentes avanzadas para la transición energética sostenible. Ministerio de Asuntos Económicos y Transformación Digital. (Iberdrola, Universidad de Granada). 01/01/2022-31/12/2024. 12.540.041,32 €. Principal investigator - Sub-Project leader.
- 3 Project. TED2021-130454B-I00, SPEEDY: Acelerando en la nube las simulaciones energéticas. Ministerio de Ciencia e Innovación. (Universidad de Granada). 01/12/2022-30/11/2024. 72.400 €. Principal investigator - Project leader.
- 4 Project. PLEC2021-007681, XAI-DISINFODEMICS: Explainable AI for disinformation and conspiracy detection during infodemics. Ministerio de Ciencia e Innovación. (Universidad Politécnica de Valencia, Universidad de Granada). 01/12/2021-30/11/2024. 419.876,5 €. Principal investigator - Sub-Project leader.
- 5 Project. SR21-00684, U-MIND: Understanding multimodal misinformation diffusion. Obra Social Fundación la Caixa. (Universidad de Granada). 01/12/2021-30/04/2024. 99.800 €. Principal investigator - Project leader.
- 6 Project. INEA/CEF/ICT/A2020/2381931, IBERIFIER: Iberian Digital Media Research and Fact-Checking Hub. Comisión Europea. (Universidad de Granada). 01/09/2021-29/02/2024. 1.476.315 €. Principal investigator - Sub-Project leader.
- 7 Project. A-TIC-244-UGR20, DEEPSIM: Aprendizaje Profundo de Modelos de Simulación. Universidad de Granada. (Universidad de Granada). 01/07/2021-30/06/2023. 35.000 €. Principal investigator - Project leader.
- 8 Project. TIN2017-91223-EXP, PROFICIENT: Deep Learning for Energy-Efficient Building Control. Ministerio de Ciencia e Innovación. (Universidad de Granada). 01/11/2018-31/10/2021. 42.350 €. Principal investigator.