

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	Carlos		
Family name	Camacho Gómez		
Gender (*)	Male	Birth date (dd/mm/yyyy)	07/05/1991
Social Security, Passport, ID number	47297162P		
e-mail	carlos.camacho@upm.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	https://orcid.org/my-orcid?orcid=0000-0002-0224-6499		

(*) Mandatory

A.1. Current position

Position	Senior Lecturer (Pr. Contr. Dr.)		
Initial date	01/09/2023		
Institution	Universidad Politécnica de Madrid (UPM)		
Department/Center	ETSISI	Computer Systems Engineering Department	
Country	Spain	Teleph. number	91 0673728
Key words	Optimization, meta-heuristics, machine learning		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
16/04/2020 – 31/08/2023	Lecturer (Pr. Ay. Dr.) at UPM
28/04/2023 – 22/05/2023	Activity interruption due to lactation (3.5 weeks)
17/02/2023 – 27/04/2023	Activity interruption due to paternity leave (2.5 months)
26/09/2022 – 06/11/2022	Activity interruption due to paternity leave (1.5 months)
01/04/2017 – 15/02/2020	Researcher at Universidad de Alcalá
15/10/2015 – 30/03/2017	Research fellow at Universidad de Alcalá

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Information and Communication Technologies (ICT)	Universidad de Alcalá	2018
Telecommunication Engineering	Universidad de Alcalá	2015

(Include all the necessary rows)

Part B. CV SUMMARY

Dr. Carlos Camacho Gómez is lecturer in the Computer Systems Engineering department at Universidad Politécnica de Madrid (UPM). Currently, he is also part of the Applied Intelligence and Data Analysis (AIDA: <https://aida.etsisi.upm.es>) research group at UPM. He has studied telecom engineering and has recently obtained his PhD “cum laude” in Information and Communication Technologies at Universidad de Alcalá (UAH).



His research profile focuses on the design and application of meta-heuristic algorithms on a wide range of target problems. In turn, He have worked with machine learning and deep learning techniques for regression and classification problems related to energy and the environment. This activity has led to the contribution of 23 different high ranked journals, as can be seen in his different research profiles in Google (https://scholar.google.es/citations?user=IFV2_CsAAAAJ&hl=es) and Research Gate (<https://www.researchgate.net/profile/C-Camacho-Gomez/publications>). Also, he has participated in 5 national and international congresses. To measure the impact of his research firstly must be mentioned that 11 publications are indexed in quartile Q1 different categories, 8 in Q2 and 4 in Q3 quartile. Secondly, regarding the last years, the following numbers can be highlighted: 524 citations, 12 index-h, 16 index-i10.

His profile as a telecommunications engineer has allowed him to transfer knowledge through two whitepapers for the companies ISDEFE and SAMSUNG. I have also participated and continue to participate in collaborative projects with companies such as AIRBUS, ISDEFE and COPAC (currently). Regarding the last mentioned, in the last three years he has been focusing on the analysis of data on air operations at the 5 most important airports in Spain, the design of models for estimating pollutant gas emissions and, finally, the development of a meta-heuristic algorithm capable of assigning each operation a stand that minimises runway time or gas emissions.

Finally, He has four years of teaching experience during which he has taught 780 hours of classes, has participated in two teaching innovation projects and has supervised different bachelor's/master's degree final projects. Finally, it is worth mentioning that he has obtained a 9.34/10 rating from students in the UPM internal surveys.

Part C. RELEVANT MERITS

C.1. Publications.

1. *New Probabilistic, Dynamic Multi-Method Ensembles for Optimization Based on the CRO-SL*. Pérez-Aracil, J.; Camacho-Gómez, C.; Lorente-Ramos, E.; Marina, C.M.; Cornejo-Bueno, L.M.; Salcedo-Sanz, S. Mathematics, vol. 11, 1666, 2023. DOI: <https://doi.org/10.3390/math11071666>
2. *Optimal vibration isolation and alignment over non-rigid bases with the CRO-SL ensemble*. J. Pérez-Aracil, C. Camacho-Gómez, P. Reynolds, E. Pereira, S. Salcedo-Sanz, Engineering Applications of Artificial Intelligence, Volume 113, 2022. DOI: <https://doi.org/10.1016/j.engappai.2022.104984>
3. *A Coral Reefs Optimization algorithm with substrate layer for robust Wi-Fi channel assignment*, Carlos Camacho-Gómez, Ivan Marsa-Maestre, Jose Manuel Gimenez-Guzman, Sancho Salcedo-Sanz. Soft Computing, vol. 23, no. 23, pp. 12621-12640, 2020. DOI: <https://doi.org/10.1007/s00500-019-03815-9>
4. *Wind power ramp event detection with a hybrid neuro-evolutionary approach*, Laura Cornejo-Bueno, Carlos Camacho-Gómez, Adrián Aybar-Ruíz, Luis Prieto, Alberto Barea-Roperero, Sancho Salcedo-Sanz, Neural Computing and Applications, vol. 32, no. 2, pp. 391-402, 2020. DOI: <https://doi.org/10.1007/s00521-018-3707-7>
5. *Design of a Multi-Band Microstrip Textile Patch Antenna for LTE and 5G Services with the CRO-SL Ensemble*. Carlos Camacho Gómez; Rocío Sánchez Montero; Diego Martínez Villanueva; Pablo Luís López Espí; Sancho Salcedo Sanz. Applied Sciences. vol. 10 , no. 3, 2020. DOI: <https://doi.org/10.3390/app10031168>
6. *Memetic coral reefs optimization algorithms for optimal geometrical design of submerged arches*, J Pérez-Aracil, C Camacho-Gómez, AM Hernández-Díaz, E Pereira, D Camacho, S Salcedo-Sanz, Swarm and Evolutionary Computation, vol. 67, 2021. DOI: <https://doi.org/10.1016/j.swevo.2021.100958>
7. *An efficient neuro-evolutionary hybrid modelling mechanism for the estimation of daily global solar radiation in the Sunshine State of Australia*, Sancho Salcedo-Sanz, Ravinesh C Deo, Laura Cornejo-Bueno, Carlos Camacho-Gómez, Sujun Ghimire. Applied Energy, vol. 209, pp. 79-94, 2018. DOI: <https://doi.org/10.1016/j.apenergy.2017.10.076>



8. *Active vibration control design using the Coral Reefs Optimization with Substrate Layer algorithm*, C Camacho-Gómez, Xidong Wang, E Pereira, IM Díaz, S Salcedo-Sanz. *Engineering Structures*, vol. 157, pp. 14-26, 2018. DOI: <https://doi.org/10.1016/j.engstruct.2017.12.002>
9. *Efficient fractal-based mutation in evolutionary algorithms from iterated function systems*, Sancho Salcedo-Sanz, Adrián Aybar-Ruiz, Carlos Camacho-Gómez, Emiliano Pereira. DOI: <https://doi.org/10.1016/j.cnsns.2017.08.010>
10. *Structures vibration control via tuned mass dampers using a co-evolution coral reefs optimization algorithm*, S Salcedo-Sanz, C Camacho-Gómez, A Magdaleno, E Pereira, A Lorenzana. *Journal of Sound and Vibration*, vol. 393, pp. 62-75, 2017. DOI: <https://doi.org/10.1016/j.jsv.2017.01.019>

C.2. Congress.

1. Carlos Camacho-Gómez, Jorge Pérez-Aracil, José Manuel Soria, David Camacho and Sancho Salcedo-Sanz. "The application of artificial neural networks and regressors in optimal vibration control design". In: 6th International Congress On Mechanical Models In Structural Engineering (Cmmost 2021). Valladolid, 2021. Invited conference.
2. L. Cornejo-Bueno; A. Aybar-Ruiz; C. Camacho-Gómez; L. Prieto; A. Barea-Ropero; S. Salcedo-Sanz. "A Hybrid Neuro-Evolutionary Algorithm for Wind Power Ramp Events Detection" Congress Name: International Work-Conference on Artificial Neural Networks (IWANN 2017). Cádiz, 2017. Oral presentation.
3. C. Camacho-Gómez; R. Mallol-Poyato; S. Jiménez-Fernández. "Optimal placement of distributed generation in micro-grids with binary and integer-encoding evolutionary algorithms" In: IEEE Congress on Evolutionary Computation (CEC 2016). Vancouver, 2016. Oral presentation.
4. S. Salcedo-Sanz; C. Camacho-Gómez; D. Molina; F. Herrera. "A coral reefs optimization algorithm with substrate layers and local search for large scale global optimization" In: IEEE Congress on Evolutionary Computation (CEC 2016). Vancouver, 2016. Oral presentation.
5. Laura Cornejo-Bueno; Carlos Camacho-Gómez; Adrián Aybar-Ruiz; Luis Prieto; Sancho Salcedo-Sanz. "Feature Selection with a Grouping Genetic Algorithm and Extreme Learning Machine Approach for Wind Power Prediction" In: Congreso Asociación Española de Inteligencia Artificial (CAEPIA 2016). Salamanca, 2016. Oral presentation.

C.3. Research projects.

1. Project Name: *Lucha contra los trastornos de la información en las redes sociales online* (FIGHTDIS)
Geographical scope: National
IP, Co-IP names: David Camacho Fernández, Gema Bello Orgaz.
Funding Entity(ies): Ministerio de Ciencia e Innovación (MICINN)
Region funding agency: Spain
Type of participation: Research Team
Code: PID2020-117263GB-I00
Start-End Date: 01/09/2021 - 31/08/2024
Duration: 3 years
Participating entity/ies: Universidad Politécnica de Madrid
Total amount: 92.444€
2. Project Name: *Nuevos algoritmos híbridos de inspiración natural para problemas de clasificación ordinal y predicción*
Geographical scope: National
IP, Co-IP names: Sancho Salcedo Sanz, Lucas Cuadra Rodríguez
Funding Entity(ies): Ministerio de Economía y Hacienda.
Region funding agency: Spain
Type of participation: Work Team
Code: TIN2017-85887-C2-2-P.



Start-End Date: 01/01/2018 - 31/12/2021
Duration: 3 years
Participating entity/ies: Universidad de Alcalá
Total amount: 73.000€

3. Project Name: *Programa de Redes Inteligentes de la Comunidad de Madrid (PRICAM)*.
Subproyecto para grupo GHEODE
Geographical scope: Regional
IP, Co-IP names: Sancho Salcedo Sanz
Funding Entity(ies): Comunidad de Madrid
Region funding agency: Madrid, Spain
Type of participation: Work Team
Code: S2013/ICE-2933/02
Start-End Date: 01/10/2014 - 30/09/2018
Duration: 50 months
Participating entity/ies: Universidad de Alcalá
Total amount: 103.500€ para el grupo

C.4. Contracts, technological or transfer merits.

I have tried to transfer knowledge from academia to private enterprise through contracts of the ART. 83 LOU type and by writing a whitepaper. Regarding non-competitive knowledge transfer contracts with public or private entities:

1. Title: *Explotacion de datos FlightRadar para el Observatorio de Seguridad de COPAC*
Country: Spain
Funding Entity: Colegio Oficial de Pilotos de la Aviación Comercial.
IP name/s: David Camacho Fernández
Start-End Date: 01/09/2021– 31/12/2024
Participating entity/ies: Universidad Politécnica de Madrid
Total Amount: 26.000€
2. Title: *Prospectiva sobre 5G, la nueva generación de redes móviles para internet del futuro*
Country: Spain
Funding Entity: Ingeniería de Sistemas para la Defensa de España SA.
IP name/s: José Antonio Portilla Figueras, Silvia Jiménez Fernández
Start-End Date: 14/02/2018 – 31/03/2018
Code: 39/2018
Participating entity/ies: Universidad de Alcalá
Total Amount: 20.750€
3. Title: *Desarrollo de un simulador y optimizador para el proyecto SIERRA*
Country: Spain
Funding Entity: Airbus Defence and Space SAU.
IP name/s: Sancho Salcedo Sanz, José Antonio Portilla Figueras
Start-End Date: 18/04/2017 – 30/06/2017
Code: 57/2017
Participating entity/ies: Universidad de Alcalá
Total Amount: 10.059,23 €

WHITEPAPER:

Link: [Samsung Dev Spain | Noticias \(europe-samsung.com\)](https://www.europe-samsung.com/Noticias)

Authors: Carlos Camacho Gómez, David Camacho Fernández

Funding Entity: Samsung Spain

Participating Entity: Universidad Politécnica de Madrid

Year: 2020