

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	Fernando		
Family name	Ortega Requena		
Gender (*)	Male	Birth date (dd/mm/yyyy)	07/06/1988
Social Security, Passport, ID number	51997421X		
e-mail	fernando.ortega@upm.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-4765-1479	

(*) Mandatory

A.1. Current position

Position	Profesor Titular de Universidad		
Initial date	October 9 th , 2023		
Institution	Universidad Politécnica de Madrid		
Department/Center	Department	Sistemas Informáticos	
Country	Spain	Teleph. number	910673580
Key words	artificial intelligence, machine learning, deep learning		

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

Period	Position/Institution/Country/Interruption cause
Nov 21 st , 2019 to Oct 8 th , 2023	Profesor Contratado Doctor / UPM / Spain
Sept 1 st , 2018 to Nov 20 th , 2019	Profesor Ayudante Doctor / UPM / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Doctorado en Ciencias y Tecnologías de la Computación para Smart Cities	Universidad Politécnica de Madrid (Spain)	2015
Máster Universitario en Inteligencia Artificial	Universidad Politécnica de Madrid (Spain)	2011
Graduado en Ingeniería del Software	Universidad Politécnica de Madrid (Spain)	2010

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

My research career has focused on the development of new artificial intelligence models. Specifically, I have worked on the creation of novel recommendation systems, a type of intelligent system that enables the filtering of information of interest to individuals. The significant advantage of these systems is their applicability to various fields (entertainment, education, health, e-commerce, etc.), making them highly sought after by both industry and society.

As a result of my research, I have published a total of 53 JCR articles (27 Q1, 19 Q2, 6 Q3, and 1 Q4) and have accumulated 4554 citations in Scopus (h-index: 23), 3863 citations in WOS (h-index: 21), and



7150 citations in Google Scholar (h-index: 27). My average citations per year in the last 5 years are 57.6 (Scopus), 44.4 (WOS), and 89.2 (Google Scholar). Additionally, I have contributed to 7 national and international conferences, participated in 3 research projects, and worked on 7 transfer contracts (4 as the principal investigator). Since February 2021, I have been the research leader of the Knowledge Discovery and Information Systems (KNODIS) research group.

Regarding the training of researchers, I have co-supervised 3 doctoral theses and currently supervise 2 Ph.D. students.

My academic trajectory has been closely linked to the Polytechnic University of Madrid. I graduated from there in 2010, completed my master's degree in 2011, and obtained my doctorate in 2015. During this period, I benefited from various scholarships and contracts that allowed me to delve into the world of research. Subsequently, in 2018, I began working at the Polytechnic University of Madrid as an Assistant Professor. I later advanced to Contracted Doctor Professor in 2019 and, as of a few months ago (October 2023), I hold the position of Associate Professor at the University.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

1. Dueñas-Lerín, J., Lara-Cabrera, R., **Ortega, F.**, & Bobadilla, J. (2023). Neural group recommendation based on a probabilistic semantic aggregation, *Neural Computing and Applications* 35 (19), 14081-14092 (DOI: 10.1007/s00521-023-08410-6). *Quality indicators: ranking 41/145 (Q2), impact factor 6, 1 cites in Scopus, 2 cites in Google Scholar.*
2. **Ortega, F.**, Lara-Cabrera, R., González-Prieto, A., & Bobadilla, J. (2021). Providing Reliability in Recommender Systems through Bernoulli Matrix Factorization, *Information Sciences* 553, 110-128 (DOI: 10.1016/j.ins.2020.12.001). *Quality indicators: ranking 16/164 (Q1), impact factor 8.233, 20 cites in Scopus, 17 cites in WOS, 36 cites in Google Scholar.*
3. **Ortega, F.**, Mayor, J., López-Fernández, D., & Lara-Cabrera, R. (2021). CF4J 2.0: Adapting Collaborative Filtering for Java to New Challenges of Collaborative Filtering based Recommender Systems, *Knowledge-Based Systems* 215, 106629 (DOI: 10.1016/j.knosys.2020.106629). *Quality indicators: ranking 24/145 (Q1), impact factor 8.139, 9 cites in Scopus, 6 cites in WOS, 15 cites in Google Scholar.*
4. **Ortega, F.**, Zhu, B., Bobadilla, J. & Hernando, A. (2018). CF4J: Collaborative Filtering for Java, *Knowledge-Based Systems* 152, 94-99 (DOI: 10.1016/j.knosys.2018.04.008). *Quality indicators: ranking 17/133 (Q1), impact factor 5.101, 35 cites in Scopus, 28 cites in WOS, 53 cites in Google Scholar. This article defined the architecture and operation of an open source software library for scientific experimentation available at <https://cf4j.etsisi.upm.es/>*
5. Hernando, A., Bobadilla, J., **Ortega, F.**, & Gutiérrez, A. (2017). A probabilistic model for recommending to new cold-start non-registered users, *Information Sciences* 376, 216-232 (DOI: 10.1016/j.ins.2016.10.009). *Quality indicators: ranking 12/148 (Q1), impact factor 4.305, 32 cites in Scopus, 28 cites in WOS, 46 cites in Google Scholar.*
6. Hernando, A., Bobadilla, J., & **Ortega, F.** (2016). A non negative matrix factorization for collaborative filtering recommender systems based on a Bayesian probabilistic model, *Knowledge-Based Systems* 97, 188–202 (DOI: 10.1016/j.knosys.2015.12.018). *Quality indicators: ranking 16/133 (Q1), impact factor 4.529, 253 cites in Scopus, 219 cites in WOS, 334 cites in Google Scholar. As of July/August 2023, this highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year.*

7. **Ortega, F.**, Hernando, A., Bobadilla, J., & Kang, J.H. (2016). Recommending Items to Group of Users using Matrix Factorization based Collaborative Filtering, *Information Sciences* 345, 313–324 (DOI: 10.1016/j.ins.2016.01.083). *Quality indicators: ranking 7/146 (Q1), impact factor 4.732, 135 cites in Scopus, 123 cites in WOS, 198 cites in Google Scholar.*
8. **Ortega, F.**, Sanchez, J.L., Bobadilla, J., & Gutierrez, A. (2013). Improving collaborative filtering-based recommender systems results using Pareto dominance, *Information Sciences* 239, 50-61 (DOI: 10.1016/j.ins.2013.03.011). *Quality indicators: ranking 8/135 (Q1), impact factor 3.893, 60 cites in Scopus, 55 cites in WOS, 99 cites in Google Scholar.*
9. Bobadilla, J., **Ortega, F.**, Hernando, A., & Gutierrez, A. (2013). Recommender systems survey, *Knowledge-Based Systems* 46, 109-132 (DOI: 10.1016/j.knosys.2013.03.012). *Quality indicators: ranking 15/121 (Q1), impact factor 3.058, 2404 cites in Scopus, 2005 cites in WOS, 3837 cites in Google Scholar. Since September 2017, this article has received enough citations to be included in the top 1% of the best articles in its academic field based on a threshold of highly cited articles for the field and the year of publication.*
10. Bobadilla, J., **Ortega, F.**, Hernando, A., & Bernal, J. (2012). A collaborative filtering approach to mitigate the new user cold start problem, *Knowledge-Based Systems* 26, 225-238 (DOI: 10.1016/j.knosys.2011.07.021). *Quality indicators: ranking 6/115 (Q1), impact factor 4.104, 398 cites in Scopus, 338 cites in WOS, 638 cites in Google Scholar.*

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. Valdiviezo, P, **Ortega, F.** (28-30 de octubre de 2020). Comparative Performance of Collaborative Filtering Recommendations Methods for Explaining Recommendations, International Conference of Digital Transformation and Innovation Technology (INCODTRIN 2020) (Quito, Ecuador). Organized by INCONTRID Ahead of Technology. Oral presentation.
2. López-Fernández, D., Tovar, E., Alarcón, P.P., & **Ortega, F.** (16-19 de octubre de 2019). Motivation of Computer Science Engineering Students: Analysis and Recommendations, 49th Annual Frontiers in Education (FIE) Conference (Cincinnati, Ohio, USA). Organized by IEEE. Oral presentation. *GGS: CORE:B, LiveSHINE:B, MA:B.*
3. Pajuelo, F., Gómez-Pulido, J.A., & **Ortega, F.** (4-6 de septiembre de 2019). Evaluating Strategies for Selecting Test Datasets in Recommender Systems, 14th International Conference on Hybrid Artificial Intelligent Systems (Leon, España). Organized by Universidad de León. Oral presentation. *GGS: CORE:C, LiveSHINE:C, MA:C.*
4. **Ortega, F.**, Hernando, A., & Bobadilla, J. (7-11 de noviembre de 2011). Extended precision quality measure for recommender systems, 14th Conference of the Spanish Association for Artificial Intelligence (CAEPIA 2011) (La Laguna, Canarias, España). Organized by Spanish Association for Artificial Intelligence. Oral presentation.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. Participant in the research team of project *DL-CEGM: Aumento de la calidad y de la equidad, a grupos minoritarios, en las recomendaciones obtenidas mediante filtrado colaborativo basado en técnicas de Deep Learning (PID2019-106493RB-I00)*. Funder: Ministerio de Ciencia, Innovación y Universidades. Total budget: 28.193,00 €. Call: Programa Estatal de I+D+i Orientada a los Retos de la Sociedad (Convocatoria 2019). From June 2020 to May 2023. Number of researchers: 5. Principal investigator: Jesús Bobadilla Sancho (UPM).

2. Participant in the research team of project *SIREFICO: Aumento de Prestaciones en los Sistemas de Recomendación basados en Filtrado Colaborativo (TIN2012-32682)*. Funder: Ministerio de Economía y Competitividad. Total budget: 14.040,00 €. Call: Ayudas para la Realización de Proyectos de Investigación (Subprograma de Proyectos de Investigación Fundamental No Orientada). From January 2013 to December 2016. Number of researchers: 5. Principal investigator: Antonio Hernando Esteban (UPM).

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

1. Research team in the project "*ICARIA TDM (P2061220225)*" from July 2020 to October 2020 (4 months). Principal investigator: Raúl Lara Cabrera. Funding entity: netZima S.L. (15.681,60 €).
2. Principal investigator of the project "*Desarrollo de una aplicación web multiplataforma para la gestión de sueños mediante el framework mean.js (P1961220035)*" from February 2019 to April 2019 (3 months). Funding entity: High Tech Items S.L. (4.100,00 €).
3. Principal investigator of the project "*Desarrollo de algoritmos de machine learning para análisis de información bancaria (P1861220463 / P1861220509 / P1961220106)*" from December 2018 to May 2019 (6 months). Funding entity: Ingenio Labs S.L. (1.294,12 €).
4. Research team in the project "*Implementación de un sistema de recomendación que permita sugerir productos comerciales (P136130154)*" from March 2013 to December 2013 (10 months). Principal Investigator: Antonio Hernando Esteban. Funding entity: Technology Sport Company S.L. (15.000,00 €).