

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	Alejandro		
Family name	Martín García		
Gender (*)	Male	Birth date (dd/mm/yyyy)	13/03/1992
Social Security, Passport, ID number	02307414P		
e-mail	alejandro.martin@upm.es	URL Web: https://aida.etsisi.upm.es	
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-0800-7632		

(*) Mandatory

A.1. Current position

Position	Profesor Contratado Doctor		
Initial date	01/09/2022		
Institution	Universidad Politécnica de Madrid		
Department/Center	Sistemas Informáticos		
Country	Spain	Teleph. number	+34 699750423
Key words	120300 – Computer Sciences, Deep Learning, Natural Language Processing		

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

Period	Position/Institution/Country/Interruption cause
2020 - 2022	Profesor Ayudante Doctor – Universidad Politécnica de Madrid
2019 - 2020	Profesor Ayudante Doctor – Universidad Rey Juan Carlos
2016 - 2019	Profesor Ayudante - Universidad Autónoma de Madrid
2015 - 2016	Research assistant – Universidad Autónoma de Madrid

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Programa Oficial de Doctorado en Ingeniería Informática y de Telecomunicación (RD2011)	Universidad Autónoma de Madrid	2019
Máster en Ciencia y Tecnología Informática	Universidad Carlos III de Madrid	2015
Grado en Ingeniería Informática	Universidad Carlos III de Madrid	2014

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

My research experience began at the Carlos III University of Madrid where I collaborated with the Planning and Learning research group, specifically in the implementation of therapies for patients with cerebral palsy using robotic platforms in combination with Artificial Intelligence techniques. Then, I joined the Universidad Autónoma de Madrid, in the Applied Intelligence and Data Analysis research group, contracted in the CIBERDINE research project, under which I started to develop my doctoral thesis. In March 2019 I present my doctoral thesis, obtaining the qualification of “Sobresaliente Cum Laude” unanimously. In March 2020, I obtained a position as Assistant Professor at the Polytechnic University of Madrid and in September 2022 I started as Associate Professor (Profesor Contratado Doctor, with an accreditation for Associate Professor) at the same university. As for research stays, in the period from September to November 2017, I made a pre-doctoral stay of 3 months at the



University of Kent (United Kingdom). Subsequently, I did a postdoctoral stay at the University of Cordoba for 2 months and, in 2023, I did a 4-month stay at the University of Kent, UK.

I have published in several JCR-indexed journals, most of which are in the first quartile of the JCR index, as well as in national and international conferences. In these I have also participated as an organizer, member of the program committee and as a speaker in several invited tutorials. I am currently Associate Editor of the JCR Computer Journal and I have participated as Guest Editor in two special issues of two journals, one of them first quartile in JCR. In addition, I have extensive experience participating in and evaluating regional, national, and European projects. I have directed several research projects: CIVIC, a competitive project as principal investigator granted by the BBVA Foundation that brings together 24 researchers from different countries, DisTrack, a competitive project also funded by Mobile World Capital Barcelona, both aimed at combating disinformation using Artificial Intelligence techniques. Currently, I'm CO-PI the European project MARTINI, focused on the application of Deep Learning techniques for the profiling of malicious actors in social networks, as well as other projects funded by different partners focused on the detection of disinformation and the application of Deep Learning and Natural Language Processing methods. My last project (MuseAI) granted as PI-UPM started in January 2024, funded by Calouste Gulbenkian Foundation.

In global terms, I have been PI in a total of 4 research projects, 3 of them international. The total funding of these has been 1,405,316.04€, of which 453,783.58€ has reached the research group. This has allowed me to strengthen international relations with many researchers from different countries. The common thread of all these projects is the fight against disinformation through Deep Learning models and SNA techniques, thus contributing to society with tools to combat this problem and to analyse and detect the dissemination of false information. Within the framework of these projects, I am currently co-directing a total of 4 doctoral theses, which are due to be read in 2024 and 2025.

Part C. RELEVANT MERITS

C.1. Publications (*selection*)

- 1 **Alejandro Martín** (AC); Javier Huertas-Tato; Álvaro Huertas-García; Guillermo Villar-Rodríguez; David Camacho. 2022. FacTeR-Check: Semi-automated fact-checking through semantic similarity and natural language inference. Knowledge-Based Systems. Elsevier. 251, pp.1-19. ISSN 0950-7051. <https://doi.org/10.1016/j.knosys.2022.109265>
- 2 Javier Huertas-Tato; **Alejandro Martín** (AC); David Camacho. 2022. SILT: Efficient transformer training for inter-lingual inference. Expert Systems With Applications. Elsevier. ISSN 0957-4174.
- 3 Javier Huertas-Tato; **Alejandro Martín**; David Camacho. 2023. BERTuit: Understanding Spanish language in Twitter with transformers. Expert Systems. Wiley. 40-9. <https://doi.org/10.1111/exsy.13404>
- 4 Álvaro Huertas-García; **Alejandro Martín**; Javier Huertas-Tato; David Camacho. 2023. Countering malicious content moderation evasion in online social networks: Simulation and detection of word camouflage. Applied Soft Computing. Elsevier. 145. <https://doi.org/10.1016/j.asoc.2023.110552>
- 5 Huertas-Tato; **Alejandro Martín**; Julián Fierrez; David Camacho. 2022. Fusing CNNs and statistical indicators to improve image classification. Information Fusion. Elsevier. 79-March 2022, pp.174-187. <https://doi.org/10.1016/j.inffus.2021.09.012>
- 6 Álvaro Huertas-Tato; **Alejandro Martín**; Javier Huertas-Tato; David Camacho. 2022. Exploring Dimensionality Reduction Techniques in Multilingual Transformers. Cognitive Computation. ISSN 1866-9964. <https://doi.org/10.1007/s12559-022-10066-8>
- 7 **Alejandro Martín**; Víctor Manuel Vargas; Pedro Antonio Gutiérrez; David Camacho; César Hervás-Martínez. 2020. Optimising Convolutional Neural Networks using a Hybrid Statistically-driven Coral Reef Optimisation algorithm. Applied Soft Computing. Elsevier. 90-106144, pp.1-14. ISSN 1568-4946. <https://doi.org/10.1016/j.asoc.2020.106144>



- 8 **Alejandro Martín**; Raúl Lara-Cabrera; David Camacho. 2019. Android malware detection through hybrid features fusion and ensemble classifiers: the AndroPyTool framework and the OmniDroid dataset. *Information Fusion*. Elsevier. 52, pp.128-142. ISSN 1566-2535. <https://doi.org/10.1016/j.inffus.2018.12.006>
- 9 **Alejandro Martín**; Víctor Rodríguez-Fernández; David Camacho. 2018. CANDYMAN: Classifying Android malware families by modelling dynamic traces with Markov chains. *Engineering Applications of Artificial Intelligence*. Elsevier. 74, pp.121-133. ISSN 0952-1976. <https://doi.org/10.1016/j.engappai.2018.06.006>
- 10 **Alejandro Martín**; Raúl Lara-Cabrera; Félix Fuentes-Hurtado; Valery Naranjo; David Camacho. 2018. EvoDeep: a new Evolutionary approach for automatic Deep Neural Networks parametrisation. *Journal of Parallel and Distributed Computing*. Elsevier. 117, pp.180-191. ISSN 0743-7315. <https://doi.org/10.1016/j.jpdc.2017.09.006>

C.2. Congress

- 1 Javier Huertas-Tato; **Alejandro Martín**; David Camacho. **Using Authorship Embeddings to Understand Writing Style in Social Media**. CLEF 2023: Experimental IR Meets Multilinguality, Multimodality, and Interaction. CERTH. 2023. Greece. Participation: oral presentation, publication
- 2 Javier Huertas-Tato; **Alejandro Martín**; David Camacho. **Detection of False Information in Spanish Using Machine Learning Techniques**. Intelligent Data Engineering and Automated Learning – IDEAL 2022. The University of Manchester. 2022. United Kingdom. Participation: oral presentation, publication
- 3 Javier Huertas-Tato; **Alejandro Martín**; Álvaro Huertas-García; David Camacho. **Generating Authorship Embeddings with Transformers**. IEEE World Congress on Computational Intelligence (WCCI 2022) (CORE A, GSS Class 2). IEEE. 2022. Italy. Conference. Participation: oral presentation, publication
- 4 Álvaro Huertas-García; Helena Liz; Guillermo Villar-Rodríguez; **Alejandro Martín**; Javier Huertas-Tato; David Camacho. AIDA-UPM at semeval-2022 task 5: **Exploring multimodal late information fusion for multimedia automatic misogyny identification**. The 16th International Workshop on Semantic Evaluation. Special Interest Group on the Lexicon of the Association for Computational Linguistics. 2022. Participation: oral presentation, publication
- 5 Álvaro Huertas-García; Javier Huertas-Tato; **Alejandro Martín**; David Camacho. **Countering Misinformation Through Semantic-Aware Multilingual Models**. 22nd International Conference on Intelligent Data Engineering and Automated Learning - IDEAL – CORE C. Springer. 2021. United Kingdom. Participation: oral presentation, publication
- 6 Álvaro Huertas-García; Javier Huertas-Tato; **Alejandro Martín**; David Camacho. CIVIC-UPM at CheckThat! 2021: **Integration of Transformers in Misinformation Detection and Topic Classification** (GSS B). CLEF 2021 - Conference and Labs of the Evaluation Forum, September 21–24, 2021 - GSS B. University “Politehnica” of Bucharest. 2021. Romania. Conference. Participation: oral presentation, publication
- 7 Álvaro Huertas-García; Javier Huertas-Tato; **Alejandro Martín**; David Camacho. Profiling hate speech spreaders on twitter: Transformers and mixed pooling. **CLEF 2021 - Conference and Labs of the Evaluation Forum**, September 21–24, 2021 - GSS B. University “Politehnica” of Bucharest. 2021. Romania. Conference. Participation: oral presentation, publication
- 7 **Alejandro Martín**; Raúl Lara-Cabrera; Víctor Manuel Vargas; Pedro Antonio Gutiérrez; César Hervás-Martínez; David Camacho. **Statistically-driven Coral Reef metaheuristic for automatic hyperparameter setting and architecture design of Convolutional Neural Networks**. 2020 IEEE Congress on Evolutionary Computation (CEC) - GSS (A) – CORE B. IEEE. 2020. United Kingdom. Participation: oral presentation, publication.
- 8 **Alejandro Martín**; Raúl Lara-Cabrera; David Camacho. **A new tool for static and dynamic Android malware analysis**. FLINS Conference on Data Science and Knowledge Engineering for Sensing Decision Support 2018 - CORE C. Ulster University. 2018. United Kingdom. Participation: oral presentation, publication.
- 9 **Alejandro Martín**; Félix Fuentes-Hurtado; Valery Naranjo; David Camacho. **Evolving Deep Neural Networks architectures for Android malware classification**. 2017 IEEE



Congress on Evolutionary Computation - GSS (A-) - CORE B. Universidad del País Vasco. 2017. Spain. Participation: oral presentation, publication.

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 Malicious actors profiling and detection in Online Social Networks through Artificial Intelligence (MARTINI).** Comisión Europea. **PIs:** David Camacho, **Alejandro Martín.** (Universidad Politécnica de Madrid). 01/12/2022-30/11/2025. Funding: 866.991,04€, UPM: 195.458,58€. **Responsibility:** CO-PI, Open-Science Coordinator, tasks related to deep learning models training.
- 2 CIVIC: Caracterización inteligente de la veracidad de información asociada a la COVID-19.** Fundación BBVA. **Coordinator:** **Alejandro Martín.** 09/10/2020-10/10/2022. 98.325 €. **Responsibility:** coordinator, management, tasks related to designing, training and deployment of language models
- 3 Detecting and matching suspicious claims with AI.** Calouste Gulbenkian Foundation. IP-UPM: **Alejandro Martín.** 01/01/2024-30/06/2025. **Responsibility:** IP-UPM, management, tasks related to designing of ML models for claim matching.
- 4 Distrack - Tracking disinformation in Online Social Networks through Deep Natural Language Processing.** Digital Future Society - Mobile World Capital. **IP:** **Alejandro Martín.** 01/01/2022-31/12/2022. 40.000 €. **Responsibility:** IP, management, tasks related to designing of ML models for semantic similarity and NLI.
- 5 FightDIS: Fighting against Information DISorders in Online Social Networks.** PID2020-117263GB-100. Ministerio de Ciencia e Innovación. IP: David Camacho Fernández (UPM). 01/10/2021-30/09/2024. 92.444€. **Responsibility:** Team member, architecture design.
- 6 XAI-DisInfodemics: eXplainable AI for disinformation and conspiracy detection during infodemics.** PLEC2021- 007681. Ministerio de Ciencia e Innovación. David Camacho Fernández. (UPM). 01/10/2021- 30/09/2024. 419.876,5€ (UPM: 70.611,00 €). **Responsibility:** Team member, design of deep learning models with XAI capabilities
- 7 IBERIFIER: Iberian Digital Media Research and Fact-Checking Hub.** INEA/CEF/ICT/A2020/2381931. Comisión Europea. **Coordinator:** Ramón Salaverría. IP-UPM: David Camacho. 2021-2024. 1.476.315€ (UPM: 52,500 €). **Responsibility:** Team member, implementation of AI-guided applications for automated fact-checking
- 8 Cybersecurity, Network Analysis and Monitoring for the Next Generation Internet - CYNAMON.** P2018/TCS-4566. Comunidad de Madrid. David Camacho Fernández. (Universidad Autónoma de Madrid). 01/01/2019-31/12/2023. Funding: 885.500 €, UPM: 180.000€. **Responsibility:** Team member, designing and training of deep learning models for Android malware detection and classification
- 9 Strengthening European Youngsters Resilience through Serious Games - YoungRes.** Unión Europea. David Camacho Fernández. (Universidad Autónoma de Madrid). 01/01/2019-31/03/2021. 475.000 € (UPM: 169,060€). **Responsibility:** Team member, tasks related to implementation of tool for SNA
- 10 Tracking tool based on social media for risk assessment on radicalisation - RiskTrack. JUST-2015-JCOO-AG-723180.** Unión Europea. David Camacho Fernández. (Universidad Autónoma de Madrid). 01/10/2016-31/12/2018. 462.722 €. **Responsibility:** Team member, tasks related to design of supervised ML algorithms.

C.4. Contracts, technological or transfer merits

1. Art. 83: Análisis sobre digitalización y nuevas tecnologías. CISON inversiones S.L. **Alejandro Martín** (Universidad Politécnica de Madrid). 01/06/2021 – 31/12/2021. 11.000€
2. Art. 83: Realización de servicios tecnológicos a través de profesores e investigadores. David Camacho Fernández, **Alejandro Martín.** 23/07/2019. 2.000€
3. Art. 83: Semantic Transformer for Text Inference (STTI). Desarrollo de un módulo software para análisis semántico de texto (NLI). Artificial Intelligence AYGLOO SL. David Camacho Fernández, **Alejandro Martín.** 01/09/2022 – 01/09/2023