



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

CV date	30/01/2023
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Part A. PERSONAL INFORMATION

First name	Antonio		
Family name	Fernández Anta		
Gender (*)	Male	Birth date (dd/mm/yyyy)	20/11/1965
Social Security, Passport, ID number	04166960G		
e-mail	antonio.fernandez@imdea.org	https://networks.imdea.org/p/antonio-fernandez-anta/	
Open Research and Contributor ID (ORCID)(*)	0000-0001-6501-2377		

(*) Mandatory

A.1. Current position

Position	Research Professor		
Initial date	01/09/2010		
Institution	IMDEA Networks Institute		
Department/Center	N/A		
Country	Spain	Teleph. number	+34608844802
Key words	Networks, distributed computing, algorithms, and applied mathematics		

A.2. Previous positions (research activity interruptions, art. 45.2.c)

Period	Position/Institution/Country/Interruption cause
Dec 2007 – Aug 2010	Catedrático de Universidad/U. Rey Juan Carlos
Apr. 2000 - Dec. 2007	Profesor Titular de Universidad/U. Rey Juan Carlos
Oct. 1998 - Apr. 2000	Prof. Titular de Escuela Universitaria/U. Rey Juan Carlos
Dec. 1989 - Sep. 1998	Prof. Titular de Escuela Univ./ U. Politécnica de Madrid
Apr. 1988 - Dec. 1989	Prof. Tit. de Esc. Univ. Interino/U. Politécnica de Madrid

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Computer Science	University of Louisiana at Lafayette, USA	1994
MSc in Computer Science	University of Louisiana at Lafayette, USA	1992
Licenciado en Informática	Universidad Politécnica de Madrid	1991
Diplomado en Informatica	Universidad Politécnica de Madrid	1988

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

Dr. Antonio Fernández Anta is a Research Professor at IMDEA Networks. Previously he was a Full Professor at the Universidad Rey Juan Carlos (URJC) and was on the Faculty of the Universidad Politécnica de Madrid (UPM), where he received an award for his research productivity. He was a postdoc at MIT from 1995 to 1997, and spent sabbatical years at Bell Labs Murray Hill and MIT Media Lab. He has been awarded the Premio Nacional de Informática "Aritmel" in 2019 and is a Mercator Fellow of the SFB MAKI in Germany since 2018. He has more than 25 years of research experience, and more than 200 scientific publications. He was the Chair of the Steering Committee of DISC and has served in the TPC of numerous conferences and workshops. He received his M.Sc. and Ph.D. from the University

of SW Louisiana in 1992 and 1994, respectively. He completed his undergraduate studies at the UPM, having received awards at the university and national level for his academic performance. He is a Senior Member of ACM and IEEE.

Part C. RELEVANT MERITS (*sorted by typology*)

C.1. Publications (*see instructions*)

This is a selection of recent publications:

1. J. Rufino et al. Using Survey Data to Estimate the Impact of the Omicron Variant on Vaccine Efficacy against COVID-19 Infection. Scientific Reports. DOI: 10.1038/s41598-023-27951-3. Springer Nature. ISSN: 2045-2322. January 2023.
2. O.T. Ojo, A. Fernández Anta, R.E. Lillo, C. Sguera: Detecting and classifying outliers in big functional data. Adv. Data Anal. Classif. 16(3): 725-760 (2022).
3. M. Moulay, R.A. García Leiva, P.J. Rojo Maroni, F. Díez Muñoz, V. Mancuso, A. Fernández Anta: Automated identification of network anomalies and their causes with interpretable machine learning: The CIAN methodology and TTrees implementation. Comput. Commun. 191: 327-348 (2022).
4. A. Fernández Anta, C. Georgiou, M. Herlihy, M. Potop-Butucaru. Principles of Blockchain Systems (book edited). Synthesis Lectures on Computer Science, Morgan & Claypool Publishers, August 2021. ISBN: 978-1636391687.
5. A. Fernández Anta, T. Hadjistasi, N. Nicolaou, A. Popa, A.A. Schwarzmann: Tractable low-delay atomic memory. Distributed Comput. 34(1): 33-58 (2021)
6. J. Doncel, L. De La Písa, A. Santos, A. Fernández Anta. A Fair and Scalable Mechanism for Resource Allocation: The Multilevel QPQ Approach. IEEE Access 9: 19439-19456, 2021.
7. C. Baquero et al. The CoronaSurveys System for COVID-19 Incidence Data Collection and Processing. Frontiers Comput. Sci. 3: 641237, 2021.
8. M. Alfonseca, M. Cebrián, A. Fernández Anta, L. Coviello, A. Abeliuk, I. Rahwan. Superintelligence Cannot be Contained: Lessons from Computability Theory. J. Artif. Intell. Res. 70: 65-76, 2021.
9. J. González Cabañas, P. Callejo, P. Vallina, A. Cuevas, R. Cuevas, A. Fernández Anta: How resilient is the open web to the COVID-19 pandemic? Telematics and Informatics 64: 101692, 2021.
10. E. Christoforou, A. Fernández Anta, A. Sánchez. An experimental characterization of workers' behavior and accuracy in crowdsourced tasks, PLoS ONE, 16(6), e0252604, 2021.
11. A. Garcia-Agundez et al. Estimating the COVID-19 Prevalence in Spain with Indirect Reporting via Open Surveys. Frontiers in Public Health, 9, 658544, 2021.
12. R. García, A. Fernández Anta, V. Mancuso, P. Casari. A Novel Hyperparameter-free Approach to Decision Tree Construction that Avoids Overfitting by Design, IEEE Access, vol 7, pp 99978-99987, 2019.
13. A. Fernández Anta, K.M. Konwar, C. Georgiou, N.C. Nicolaou: Formalizing and Implementing Distributed Ledger Objects. SIGACT News 49(2): 58-76 (2018).
14. A. Azcorra, L.F. Chiroque, R. Cuevas, A. Fernández Anta, H. Laniado, R.E. Lillo, J. Romo, C. Sguera. Unsupervised Scalable Statistical Method for Identifying Influential Users in Online Social Networks, Scientific Reports 8(1), pp 6955, 2018.

C.2. Congress

This is a selection of recent publications:

1. Y. Alkhalili, T. Gruczyk, T. Meuser, A. Fernández Anta, A. Khalil, A. Mauthe: Content-Aware Adaptive Point Cloud Delivery. BigMM 2022: 13-20
2. M. Capretto, M. Ceresa, A. Fernández Anta, A. Russo, C. Sánchez. Setchain: Improving Blockchain Scalability with Byzantine Distributed Sets and Barriers. IEEE International Conference on Blockchain. Espoo, Finland. August 2022

3. J.M. Ramírez, P.J. Rojo Maroni, F. Díez Muñoz, V. Mancuso, A. Fernández Anta: Cleaning Matters! Preprocessing-enhanced Anomaly Detection and Classification in Mobile Networks. MedComNet 2022: 103-112
4. A. Khalil, T. Meuser, Y. Alkhalili, A. Fernández Anta, L. Stäcker, R. Steinmetz: Situational Collective Perception: Adaptive and Efficient Collective Perception in Future Vehicular Systems. VEHITS 2022: 346-352.
5. V. Cholvi, C. Georgiou, A. Fernández Anta, N. Nicolaou, M. Raynal, A. Russo. Byzantine-tolerant Distributed Grow-only Sets: Specification and Applications 4th International Symposium on Foundations and Applications of Blockchain (FAB 2021). May 2021.
6. A Russo, A Fernández Anta, M.I. González Vasco, S.P. Romano: A Scalable and Secure e-Voting Framework based on Blockchains and Linkable Ring Signatures. IEEE Workshop on Blockchain Security, Application, and Performance (BSAP), at IEEE Blockchain, Melbourne, Australia, 06-08 Dec. 2021.
7. M. Moulay, R.A. García Leiva, V. Mancuso, P.J. Rojo Maroni, A. Fernández Anta. TTrees: Automated Classification of Causes of Network Anomalies with Little Data. The 22nd IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM 2021). Online. June 2021.
8. A. Fernández Anta, C. Georgiou, T. Hadjistasi, N. Nicolaou, E. Stavarakis, A. Trigeorgi. Fragmented Objects: Boosting Concurrency of Shared Large Objects: 28th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2021), Wroclaw, Poland, June 2021.
9. J. Alvarez et al. Estimating Active Cases of COVID-19. KDD Workshop on Data-driven Humanitarian Mapping: Harnessing Human-Machine Intelligence for High-Stake Public Policy and Resiliency Planning. Virtual. August 2021.
10. V. Cholvi, A. Fernández Anta, C. Georgiou, N. Nicolaou, M. Raynal: Atomic Appends in Asynchronous Byzantine Distributed Ledgers. EDCC 2020.
11. M. Paraschiv, R. Padrino, P. Casari, A. Fernández. Very Small Neural Networks for Optical Classification of Fish Images and Videos Global OCEANS 2020: Singapore - U.S. Gulf Coast. Virtual Conference. October 2020
12. O. Ojo et al.: CoronaSurveys: Using Surveys with Indirect Reporting to Estimate the Incidence and Evolution of Epidemics. In: The KDD Workshop on Humanitarian Mapping, August 24, 2020, San Diego, California USA
13. M. Moulay, R.A. García Leiva, P.J. Rojo Maroni, J. Lazaro, V. Mancuso, A. Fernández Anta: A Novel Methodology for the Automated Detection and Classification of Networking Anomalies. In The 3rd International Workshop on Network Intelligence (NI 2020): Learning and Optimizing Future Networks, in conjunction with IEEE INFOCOM 2020, 6-9 July 2020, Toronto.
14. P. Vallina, J. Gamba, A. Feal, N. Vallina-Rodriguez, A. Fernández Anta: Tales from the Porn: A Comprehensive Privacy Analysis of the Web Porn Ecosystem, ACM Internet Measurement Conference (IMC 2019), Oct. 2019, Amsterdam, Netherlands.
15. A. Fernández Anta, C. Georgiou, N. Nicolaou: Atomic Appends: Selling Cars and Coordinating Armies with Multiple Distributed Ledgers. Tokenomics 2019.

C.3. Research projects

PI in more than 20 publicly funded research grants and member of the researcher team in several other grants. Some funded projects in which I am the PI at IMDEA Networks are:

1. Title: SocialProbing: Scalable and Cost Competitive Data Collection and Analysis Techniques for Social Probing

Funding: Ministry of Sciences and Innovation (TED2021-131264B-I00)

Participants: IMDEA Networks Institute, UC3M

Duration: 12/2022 to 11/2024

2. Title: MAESTRO: Machine Learning Based Prediction of Stroke

Funding: EU H2020 MSCA (H2020-MSCA-IF-2020 101027770, 245 732 €)

Participants: IMDEA Networks Institute, Brown University

Duration: 03/2022 to 02/2025

3. Title: DiscoLedger: DiStributed COmputation by LEarning from Data and Gathering Edge-Cloud Resources
Funding: Spanish Ministerio de Ciencia e Innovación (PDC2021-121836-I00, 90 850 €)
Duration: 03/2020 to 05/2023
4. Title: ECID: Computación Edge para Conducción Inteligente
Funded by: Spanish Ministerio de Ciencia e Innovación (PID2019-109805RB-I00)
Duration: 01/2020 to 12/2022
5. Title: EDGEDATA-CM: Una infraestructura para sistemas híbridos altamente descentralizados
Funded by: Comunidad de Madrid (P2018/TCS-4499, 130 000 €)
Duration: January 2019 to December 2022
Partners: UPM, URJC, UCM, IMDEA Networks
6. Title: DiSCoEdge: Distributed storage and computing on the edge (of the network)
Funded by: Spanish MINECO (TIN2017-88749-R)
Duration: January 2018 to December 2019
7. Title: MyBubble: Influence of Algorithms in Users' Filter Bubbles
Funded by: MISTI Global Seed Funds — MIT-SPAIN - "la Caixa" Found. SEED FUND
Duration: 01/2018 to 06/2019
Partners: MIT / IMDEA Networks Institute / UC3M
8. Title: NOTRE: Network for sOcial compuTing REsearch (<http://notre.socialcomputing.eu/>)
Funded by: European Union. H2020-Twinn 2015 (80 000€)
Duration: January 2016 to December 2018
Partners: See <http://notre.socialcomputing.eu/partners/>
9. Title: ReCred: From Real-world Identities to Privacy-preserving and Attribute-based CREDentials for Device-centric Access Control (<http://www.recred.eu/>)
IMDEA Networks Institute participates as a third party of Universidad Carlos III de Madrid
Funded by: European Union. ICT Programme H2020 (173 750 €)
Duration: May 2015 to May 2018
Partners: See <http://www.recred.eu/consortium>
10. Title: Efficient Cloud and Big Data Infrastructure (CLOUD4BIGDATA)
Funded by: Comunidad de Madrid (S2013/ICE-2894, 115 189.19 €)
Duration: Oct 2014 to Sep 2018
Partners: See <http://lsd1.ls.fi.upm.es/cloud4bigdata/participantes/>

C.4. Contracts, technological or transfer merits

I have participated in more than 20 contracts. Among them:

- Title: NetPredict 5: Adaptive Anomaly Detection and Classification / NetPredict 4: Interpretation of the evolution of network traffic / NetPredict 3: Automated interpretation of network traffic traces / NetPredict 2: Detección de anomalías en tráfico de red e identificación de posibles causas / NetPredict: Identificación de variables predictoras de anomalías en tráfico de red
Role: Scientific coordinator with Vincenzo Mancuso
Funding: Nokia
Durations: Sep 2022 to March 2023 / Sep 2021 to March 2022 / Oct. 2020 to Mar. 2021 / Jan 2020 to Jul 2020 / Sep 2019 to Dec 2019
Total amounts: 45 000€ / 45 000€ / 45 000 € / 36 200 € / 6 100 €